23 665.505
V.28 J039 v.28 no 23
26 0 29

15 Cents

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Every Thursday TULSA, OKLAHOMA, OCTOBER 24, 1929 $6.00 a Year

Michigan State Library

With a mighty surge Industry rolls on . . . and modern production rolls on Timken—*the one bearing that does all things well.*

In the oil and gas fields where dependability is necessary above everything else, Timken Bearings have so radically demonstrated their ability to eliminate friction, minimize wear, overcome radial, thrust and combined loads that "Timken Bearing Equipped" is now used as a guide in selecting oil field machinery of every type.

Pronounced power and lubricant savings follow as a matter of course, and as machine life is prolonged by the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken steel, maintenance costs are cut to the bone.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

Advertisers' Index on Page 33 Table of Contents on Page 34

Thank You Nation's Business!
Thank You Mister HORTER!

FOR YOUR EXPRESSION OF ELECTRICITY'S BROADENING USEFULNESS IN THE OIL INDUSTRY

Where Electricity and Oil Meet—By Earl Horter

ELECTRICITY, that jinni of modern times, is finding a broadening usefulness in the oil industry. Harnessed to a walking beam it speeds the rise and fall of the cable tool in the new hole or, if rotary drilling is used, with equal ease twirls the bit at the end of the mile-long drill pipe. Later it mans the pump that speeds crude oil along pipe lines to the refinery, plays a large part in the processing there, and eventually transfers the gasoline into your automobile tank at a modern filling station

20

REPRINTED BY PERMISSION FROM NATION'S BUSINESS FOR OCTOBER

THE MODERN TREND IN THE PETROLEUM INDUSTRY IS TO PURCHASED ELECTRIC POWER

TEXAS POWER & LIGHT CO.

General Offices: Interurban Building
DALLAS, TEXAS

Providing for the Texas of Today
Planning for the Texas of Tomorrow

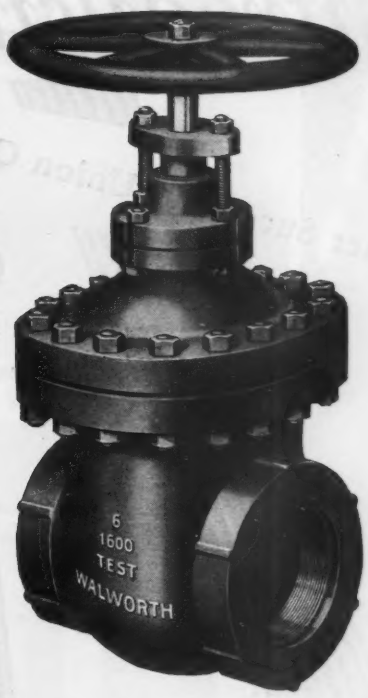
Walworth Iron Body Double Disc GATE VALVES

700 lbs. ...TEST...

Walworth 700 lb. Double Disc Steel Iron, Bronze Mounted and Bronze Stem, the accepted equipment for the difficult spots around the well in pump houses and along the pipe line right of way. Recommended for 400 lbs. pressure cold oil, water or gas.

1000 lbs. ...TEST...

Walworth 1,000 lb. Double Disc Steel Iron Gate Valve, Bronze Mounted and Bronze Stem, a never failing valve for heavy duty. Recommended for 500 lbs. working pressure cold oil, water or gas.



1600 lbs. ...TEST...

Walworth 1,600 lb. Double Disc Steel Iron Gate Valve, Bronze Mounted and Bronze Stem, for use on the high pressure lines. Recommended for cold oil, water and gas service at 800 lbs. working pressure.

WALWORTH

Walworth Company, General Sales Offices: 51 East 42nd St., New York
Plants at Boston, Mass.; Kewanee, Ill.; Greensburg, Pa., and Attalla, Ala.

Distributors in Principal Cities of the World

Walworth Company Limited, 620 Cathcart St., Montreal, P. Q.
Walworth International Co., New York, Foreign Representative

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription price $6.00 a year; 15 cents a copy. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Okla., under the Act of March 3, 1879.

Introducing

Another Successful Union Carbide and Carbon Research Laboratories Development

Oxweld No. 21 High Strength Bronze Welding Rod

SUPERIOR for all bronze-welding operations — equally adaptable for steel, cast iron or copper alloys — produces a sound, fine-grained weld metal of superior qualities of strength, toughness, ductility and freedom from porosity.

Oxweld No. 21 High Strength Bronze Welding Rod requires less time to apply and less oxygen and acetylene. It makes high strength bronze welds easier and cheaper.

This new rod is easily worked. It can be more rapidly tinned on a steel or cast iron surface. It has a low melting point — melts and freezes quickly and evenly. Remelting has no effect on either the quality or appearance of the finish weld.

Ask any Oxweld representative for the whole story. Or, just order a supply from the nearest Oxweld warehouse.

OXWELD

WELDING AND CUTTING APPARATUS AND SUPPLIES

OXWELD ACETYLENE COMPANY

Unit of Union Carbide and Carbon Corporation

NEW YORK
Carbide and Carbon Bldg.

UCC

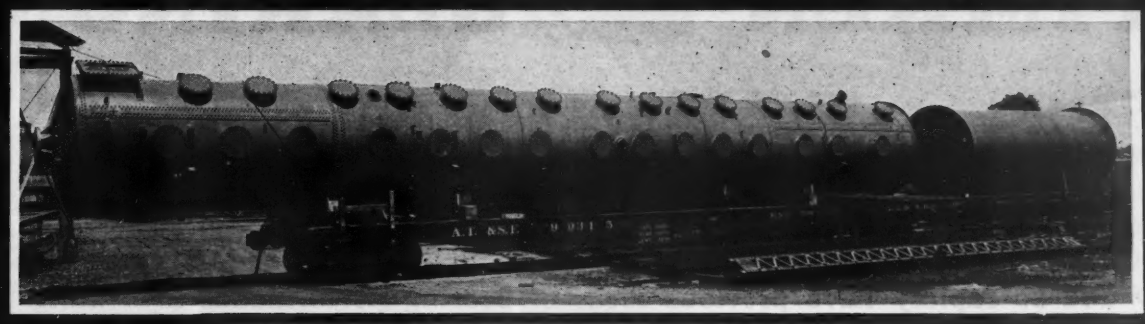
CHICAGO
Carbide and Carbon Bldg.

SAN FRANCISCO
Adam Grant Building

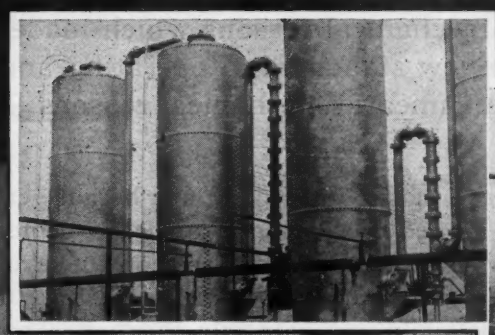
IN CANADA: Dominion Oxygen Company, Toronto

STOCKS IN 38 CITIES

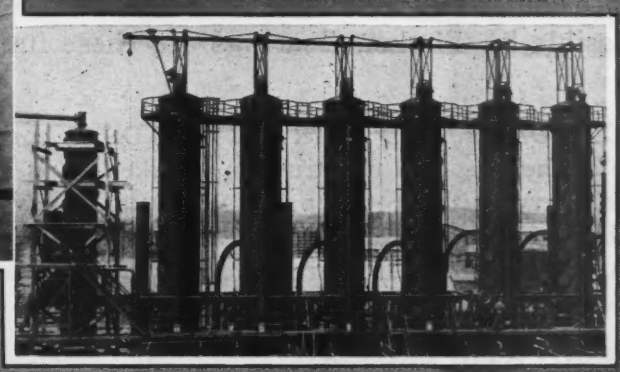
PACING PROGRESS!



Whether it's a Bubble Tower,

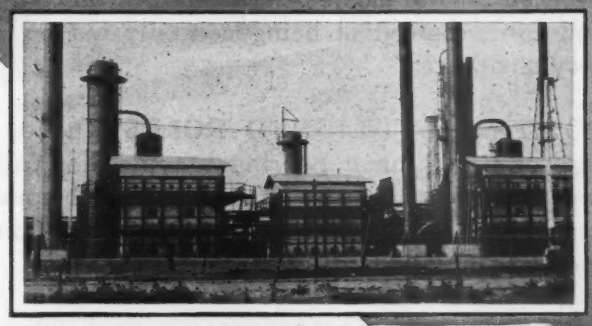


—a continuous Treating Plant,



—a re-modeled Shell Still Battery

WINKLER-KOCH continues to keep refiners throughout the nation a step ahead in the modern trend of refining. Let them handle your problems. A letter, or wire, will bring complete information.



—or a complete refinery that's needed

The WINKLER-KOCH ENGINEERING CO.

Consulting and Construction Engineers

FIRST NATIONAL BANK BLDG.
WICHITA, KANSAS

CALIFORNIA OFFICE, 1205 PACIFIC NATIONAL BANK BUILDING, LOS ANGELES

So radically and so rapidly have previous ideas of bearing performance in drilling machines, gasoline and steam engines, pumping units, jack shafts, sand reels, countershafts, crown blocks, oil-well hooks, pumps, compressors, electric motors, and gear reduction units been revolutionized by Timken Tapered Roller Bearings that the mechanical reasons which made this performance possible are sometimes lost sight of. Behind the new standards of operating and maintenance costs made possible by Timken Bearings are these fundamental mechanical reasons:

RADIAL LOADS AND THRUST LOADS Because of their tapered construction, Timken Bearings carry without compromise radial loads, thrust loads, or both loads in any combination, making possible more simple, compact, effective, wear-proof, and rigid mountings.

GREATER LOAD AREA Timkens are line contact bearings. Size for size, they have a greater capacity because the loads are distributed on the entire length of the rolls, cup and cone, instead of being concentrated on a very small area.

POSITIVELY ALIGNED ROLLS The design of the Timken Bearing provides for full contact along the entire length of the roll, cone and cup, thus allowing the bearing to function continuously at its full extra capacity.

WEAR-PROOF The longer life of Timken Bearings and their greater resistance to wear is made possible because the loads are distributed over the entire length of the rolls, cone and cup; because of the fact that radial, thrust and combination loads are provided for; because of the special analysis electric furnace Timken steel; because the parts are case hardened to give them a glass-hard outer surface with a tough elastic inner core; and because each part is made to extremely accurate dimensions. Even after hundreds of millions of revolutions, wear in a Timken Bearing is so slight as to be practically imperceptible even when measured by delicate instruments.

A PRECISION PRODUCT So accurately and precisely made is the Timken Bearing that it has become the universal standard on machine tool spindles, where a few years ago such accuracy was thought beyond attainment.

FRICTIONLESS The Timken Bearing is practically 100% frictionless: The higher load capacity and greater wear resistance of tapered line contact are thus obtained at an insignificant power loss almost impossible to calculate.

TAKE-UP IN ASSEMBLY The take-up feature in the Timken Bearing is a great advantage in assembly. Manufacturers find this to be of tremendous benefit, as it allows for minor machine irregularities, the locating of gears, etc. Last but not least, since slight wear is inevitable in any machine that revolves—(regardless of any statements to the contrary)—the Timken Bearing is designed for this take-up without affecting the proper operation of the bearing.

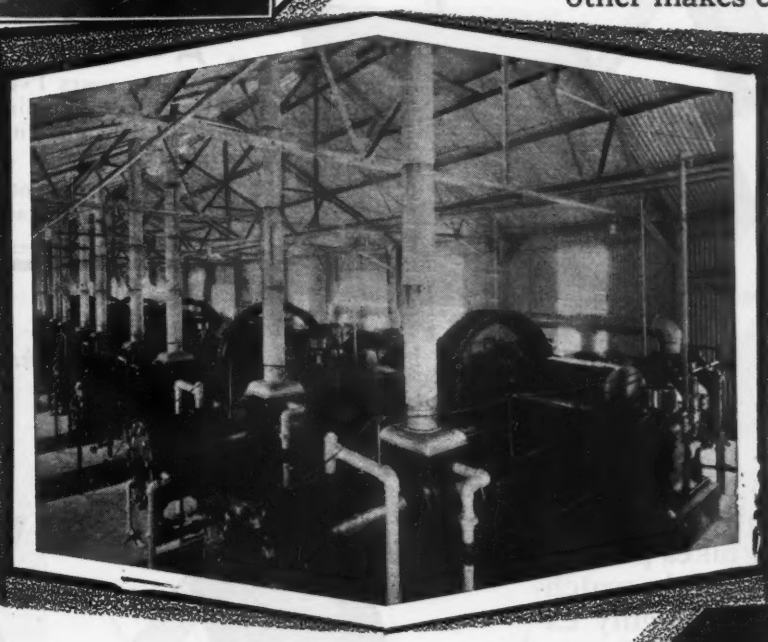
THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

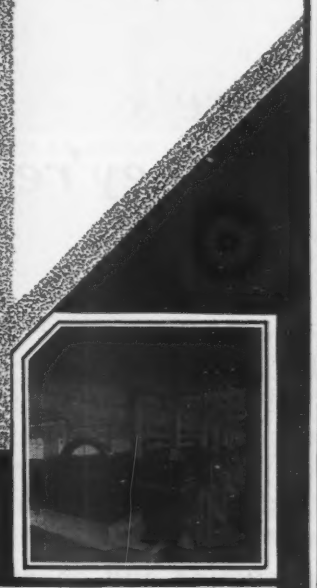
McCord LUBRICATORS

STANDARD OF THE OIL FIELD

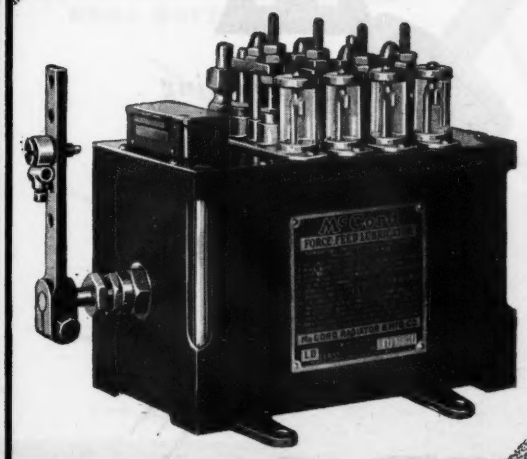
There is no denying the best recommendation any product can offer is the approval of its users. More McCord force feed lubricators are in use in the oil fields, giving satisfactory service, than all other makes combined.



DISTRIBUTED BY
National Supply Co.
ALL BRANCHES



21—165 H.P. Units—
McCord Equipped



McCord Radiator & Mfg. Co.
LUBRICATOR DIVISION
Detroit, Mich.

"I'll say they're good couplings!"

"In all the years I've used 'em I never found a Harrisburg Coupling that didn't rate a 100% mark for dependability, efficiency and all 'round satisfaction.

"And I'll bet any other Harrisburg user you talk to will say the same thing."

"Here's how they're made"

"From ladle to ingot, then on to plate or billet, to cylinder and finally to finished coupling—every operation takes place in Harrisburg's own plant, under the watchful eyes of Harrisburg's thoroughly experienced and specially trained supervisors.

"In owning and operating its own open hearth furnaces, rolling mills and forge shops Harrisburg completely controls *every* phase in the making of these widely used couplings. And that's a real advantage to all their customers!"

HARRISBURG PIPE & PIPE BENDING CO.
Harrisburg, Pa.
Fully equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops.

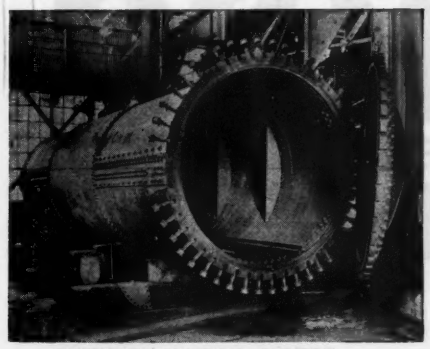
Distributors

Harrisburg Pipe & Pipe Bending Co., of Texas, Inc., Houston, Texas.
Harrisburg Supply Co., Tulsa, Okla.
George J. Hausen, Inc., San Francisco, Los Angeles and Taft, Calif.

HARRISBURG

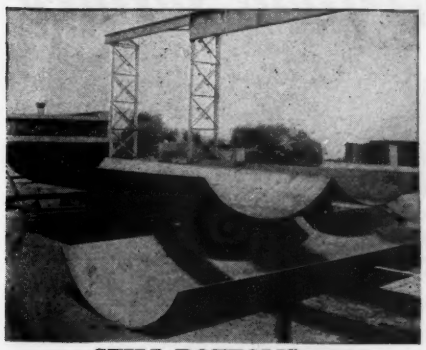
Forged Seamless Steel Couplings

Oil Refining Equipment



IMPREGNATOR SHELL

SPECIAL CONE (15 ft. diameter)



STILL BOTTOMS

We build all types of equipment such as:

TOWERS TANKS

AGITATORS

ABSORBERS

CONDENSER BOXES

EXCHANGERS

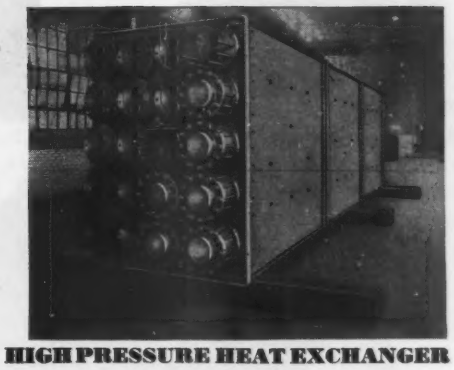
ANGLE BENDING

STILL BOTTOMS

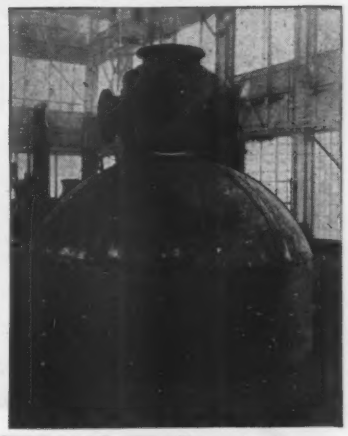
FABRICATED PLATE WORK

SPECIAL MACHINERY

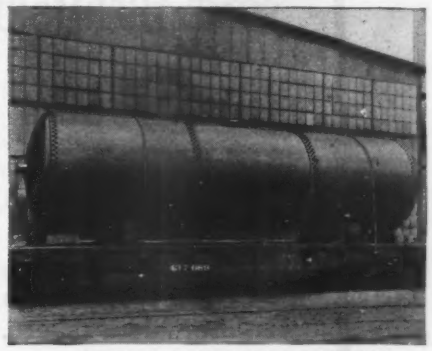
Estimates on Request



HIGH PRESSURE HEAT EXCHANGER



SPHERICAL HEAD (15 ft. diameter



SPECIAL HEAVY TANKS

Thermoid

"OIL DRILLER"

BELTING

Specially Constructed for ***STRENGTH FLEXIBILITY and WEAR*** *under the hardest oil-field Service*

SOME THERMOID OIL FIELD PRODUCTS

Brake Lining
Rotary Drill Hose
Transmission Belts
Balata Valves
Stuffing Box Rings
Rubber Sleeves, etc.

THERMOID RUBBER COMPANY *Factories and Main Offices,* TRENTON, N.J.

The Demonstrated Superiority of Baker Cement Floating, Guiding and Cementing Equipment Caused Its Universal Acceptance

The drilling of oil wells to ever-increasing depths has brought about the necessity for greater precautions in connection with the safety of casing strings, as well as other equipment. Prior to the introduction of Baker Cement Equipment, the demand for floating equipment was answered by the cast iron equipment then available. The superiority of Baker Cement Floating, Guiding, and Cementing Equipment was quickly demonstrated, however, and in the comparatively short space of two years it is being given the preference over all other types of similar equipment. It is used in practically every important field in the world. It is fast becoming Standard Practice.

The Baker-Burch Cement Float Shoe

The Baker-Burch Cement Float Shoe, here illustrated, is a plain Casing Shoe with a Baker-Formula Concrete guide-shaped plug cast and anchored in rounded grooves in the Shoe. This Baker-Formula Concrete has a compressive strength of 6002 pounds to the square inch.

The plug contains a Celeron Ball Check Valve and a Celeron Valve Seat, the valve having a safety factor amply sufficient for the deepest operations.

The entire mass of Concrete and Celeron may be drilled out easily and completely, and does not leave anything in the hole to hamper future work. As one operator has expressed it: "The minute you are out of the Shoe you are ready to go ahead." Contrast this with the troubles incident to the use of cast-iron equipment. The iron is shattered and left in the hole to make trouble and hamper following operations.

Baker Cement Float Collar

The Baker Cement Float Collar is a Baker-Formula Concrete Plug cast and anchored in rounded grooves in a special seamless steel coupling, 16″ to 18″ in length. The concrete plug contains a specially designed Celeron Ball Check Valve and a Celeron Valve Seat. This Valve is very strong and the safety factor is ample to handle the pressures encountered in running in the long strings of casing in modern deep wells.

Both the Concrete and the Celeron disintegrate readily under the drill, and are easily and completely circulated away, leaving no obstruction of any kind for future operations.

Many operators, when running in long strings, prefer the Baker Cement Float Collar to the Baker-Burch Cement Float Shoe, but it is the consensus of opinion that the added safety in using both the Float Shoe and the Float Collar make that the better practice.

Recently, in the Kettleman Hills District, this Float Collar and Float Shoe were used to land a string of 11¾″-60 pound casing, weighing 330,000 pounds, and the string was set on bottom without a single hitch. Such a performance is worthy of note.

Baker Cement Equipment Combines Efficiency and Safety

The entire line of Baker Cement Floating, Guiding, and Cementing Equipment has been tried, tested under the most severe conditions, and perfected during the past two years. It has built into it a wide margin of safety. It will withstand a terrific impact. It will make good under any and all operating conditions. It combines full efficiency and safety. Specify it and see that you get it.

Detailed Information Will Be Mailed on Request

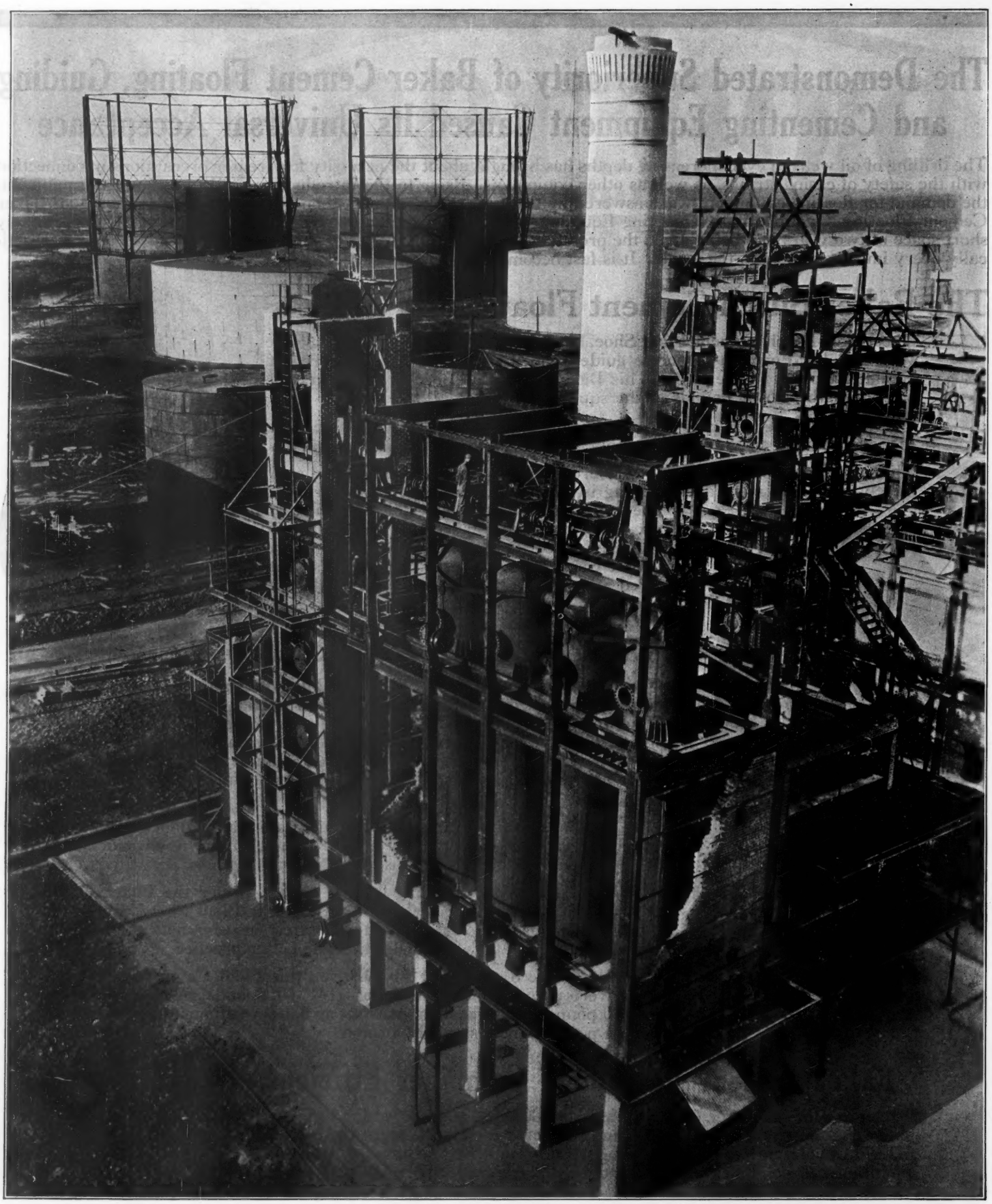
Mid-Continent Branches
Tulsa, Oklahoma Houston, Texas

Export Sales Office
25 Broadway, New York City

BAKER
OIL TOOLS, INC.
P. O. Box L, Huntington Park, Calif.
California Branches
Coalinga. Ventura. Taft, Bakersfield

Mid-Continent Distributors
B. & A. SPECIALTY CO.
220 E. Brady St., Tulsa, Okla.
2301 Commerce St., Houston, Texas

Don't Use Cast-Iron Equipment — Cement is Stronger and Better



This picture shows the erection of additional cracking units composed of SMITH *Welded Vessels in the Port Arthur Refinery of The Texas Company*

SMITH*WELDED*

SAFETY and YOUR MONEY

IN a hazardous business no more economical use of money can be made than for purchasing Safety.

SMITHWelded Vessels have made refinery operations more economical, they have permitted technical improvements and development of processes, but above all, they have been SAFE—the direct result of A. O. Smith Engineering for Safety in Oil Cracking.

A. O. SMITH CORPORATION

General Offices: Milwaukee, Wisconsin

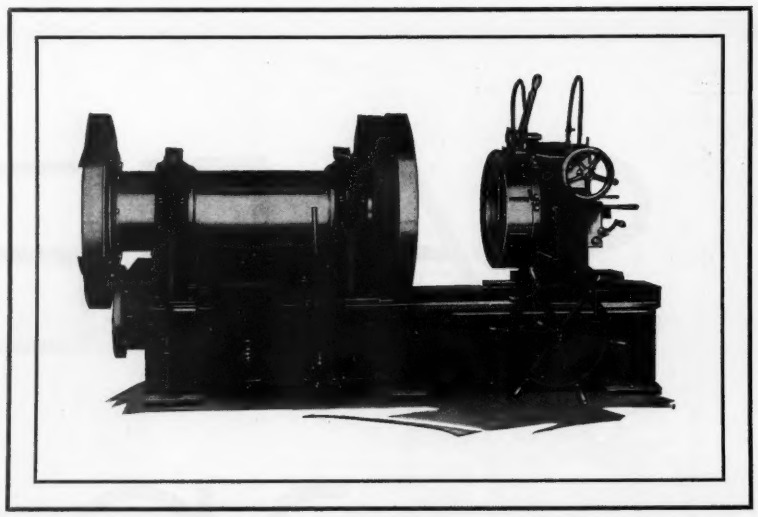
Oil & Gas Field Products Division

District Offices at:

New York , Tulsa , Houston , Los Angeles

CRACKING STILLS

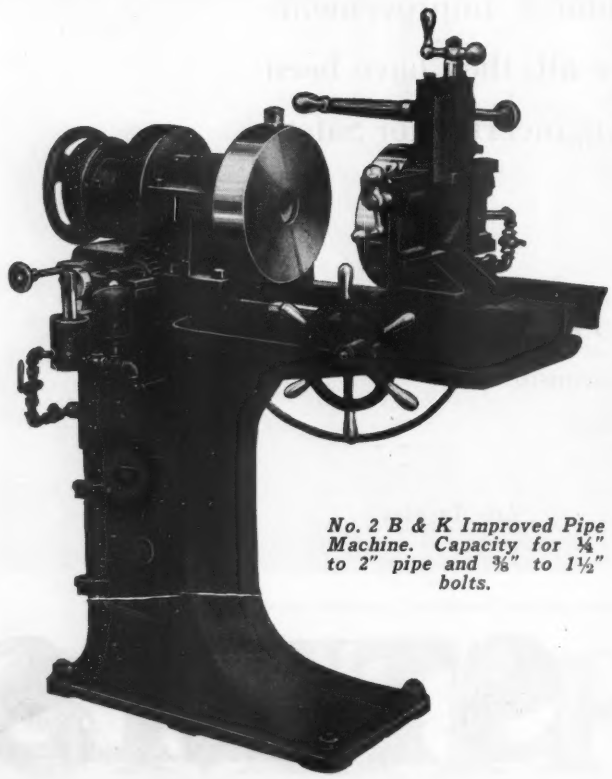
PEERLESS B&K DUPLEX P·D·Q·C



New No. 12 Duplex Pipe Machine. Capacity, 4" to 13⅜" with 8 speed changes.

ANYBODY CAN THREAD PIPE With a B & K Machine—

Big
Fast
Strong
Accurate
Dependable
Easy to Operate



No. 2 B & K Improved Pipe Machine. Capacity for ¼" to 2" pipe and ⅜" to 1½" bolts.

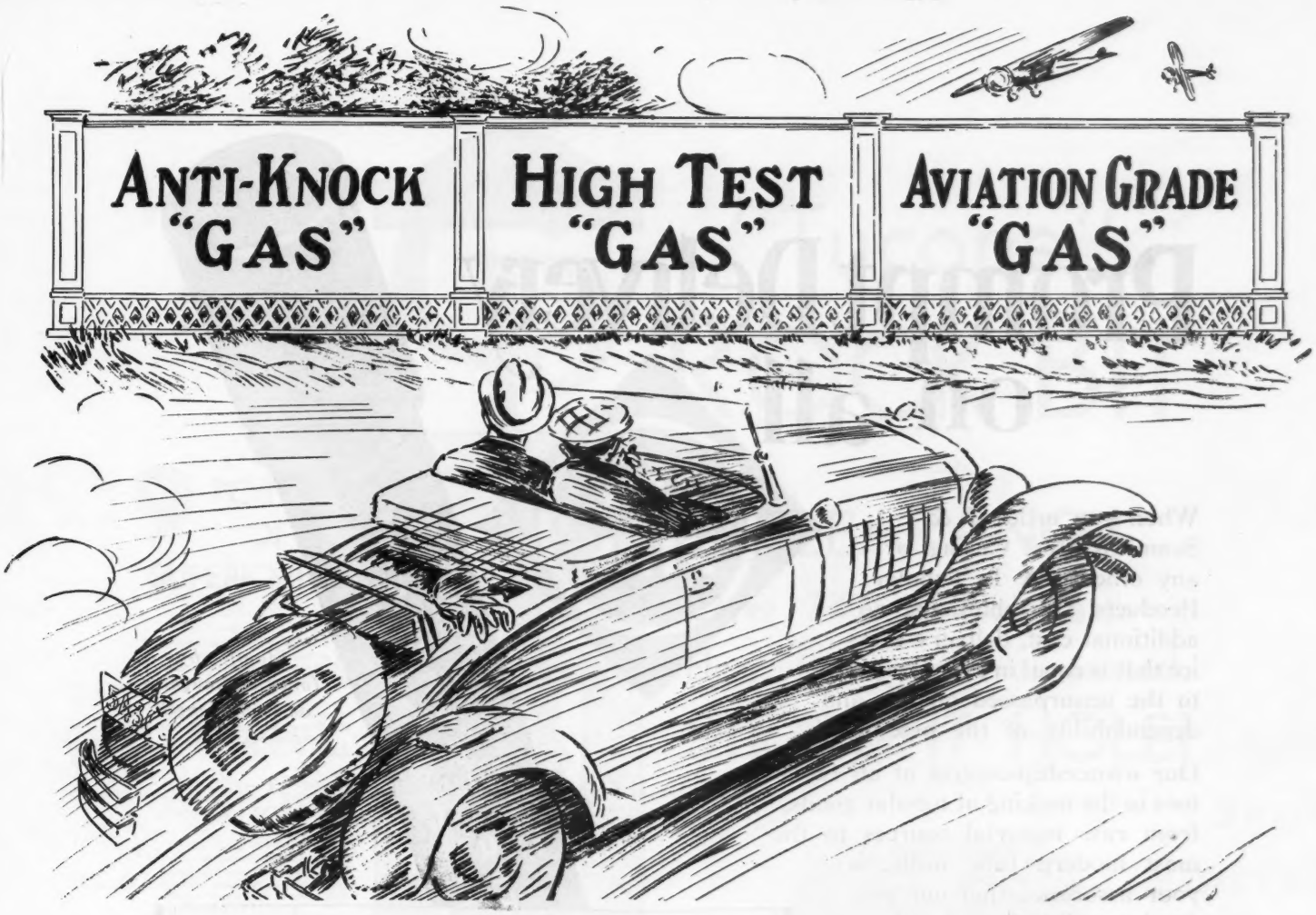
Bignall & Keeler Pipe Threading Machines are so sturdy, simple and easy to operate that almost any workman can use them satisfactorily. Threads are clean-cut and well-formed, although the rate of production is high. Repairs are practically unknown and maintenance is negligible with B & K machines. You'll find them still doing excellent work after 20 or 30 years of hard service.

Over fifty years of experience are reflected in the seventeen types and sizes we make for all pipe threading requirements. Send for our latest catalog. It is free but valuable. Write now.

Bignall & Keeler Machine Works
of the N. O. Nelson Manufacturing Co.
Edwardsville, Illinois

PEERLESS B&K DUPLEX P·D·Q·C

O&GJ 10-24 Gray



Putting your laboratory triumphs on a production basis

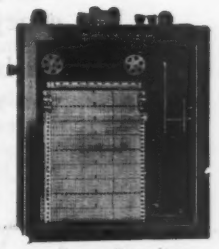
THE greatest laboratory triumphs of the petroleum chemist must end in practical failure unless the laboratory product can be commercially made and marketed at a profit.

A staff of Brown engineers is continually engaged in helping refinery engineers devise and apply suitable types and combinations of instruments to check and control the temperatures, pressures, flows, liquid levels, etc., within the close limits required.

A strong demand has been created for high-test, anti-knock motor fuels. Brown Instruments are an important factor in helping many refiners meet this demand—and helping them, too, to stabilize their products, their methods and their profits. *Write for information or consultation.*

SPEEDING UP DELIVERIES!

A 60% addition to our factory — an enlarged organization — improved equipment — are speeding up Brown Instrument deliveries. Get your orders in now.



Brown Recording Pyrometer

THE BROWN INSTRUMENT COMPANY
4488 Wayne Avenue Philadelphia, Pa.

Branches in 20 principal cities.

Brown Instruments

"To measure is to economize"

Prompt Delivery on all

J&L PIPE

Identify by Jones & Laughlin on every length

When you order J & L Seamless Steel Casing, or any other J & L Tubular Products, you obtain, at no additional cost, delivery service that is equal in every respect to the unsurpassed quality and dependability of the pipe itself.

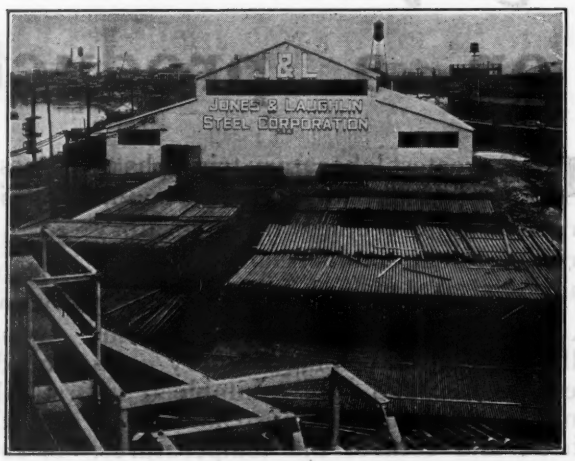
Our ownership-control of all factors in the making of tubular goods, from raw material sources to the most modern tube mills, is your assurance that our production will always be ahead of demand. We maintain an extensive warehouse and yard at Memphis, well stocked with adequate supplies of J & L pipe, both welded and seamless, supplemental to well-rounded out stocks carried by our distributors in their yards at strategic points in the oil and gas fields to serve emergency requirements.

To have pipe on hand when you need it, order J & L.

J&L STEEL

Your Guarantee of Prompt Service

J & L own and operate, not only the most modern tube mills, steel plants, and blast furnaces, but also mines and quarries, and transportation facilities. Thus, we control all factors entering into volume production of J & L Tubular products.



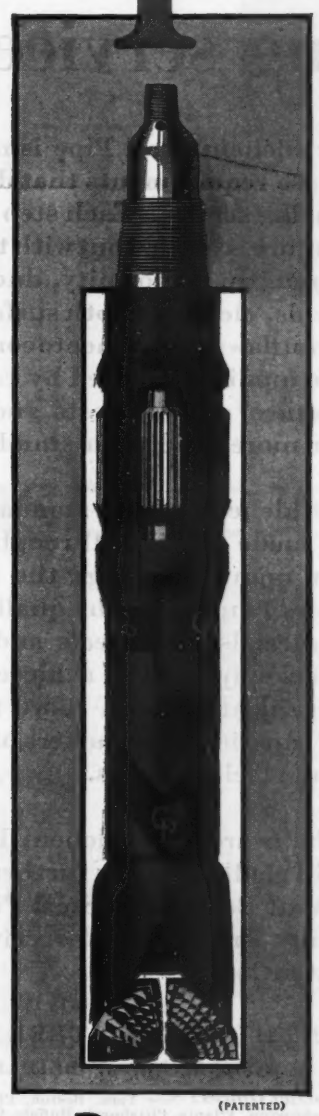
Large and complete stocks of tubular goods, welded and seamless, are carried in this extensive J & L Warehouse and yard at Memphis, Tenn., to meet the service requirements of the trade and for quick replenishment of our distributors' stocks in the field, used in serving emergency needs.

JONES & LAUGHLIN STEEL CORPORATION
PITTSBURGH PENNSYLVANIA

With the NEW CP "Tucone" ROCK BIT

9 POINTS OF SUPERIORITY

1. SAFETY—Extra large drop-forged spindle bearings. No cone bushings. One-piece bit head. One-piece reamer body. FISHING ELIMINATED
2. CIRCULATION—Fluid stream jets directly on bottom of hole. No side-wall hydraulicking. STRAIGHT HOLE
3. CLEARANCE—Over 34% of hole area is clear. "Balling up" eliminated. STRAIGHT HOLE
4. CONES AND SPINDLE BEARINGS—Cones run on extra large replaceable drop-forged spindle bearings. Stronger and thicker cone wall section due to absence of bushing. GREATER STRENGTH
5. REAMERS—Three units, properly spaced and located for accurate reaming. New type reamer bearing eliminates wear on reamer body. KEEPS GAUGE — ALWAYS!
6. ONE-PIECE BODIES—Both bit and reamer bodies are solid manganese steel. GREATER STRENGTH
7. REPLACEMENTS — Cone-and-bearing units and reamers easily and quickly changed. TIME SAVED
8. LOW MAINTENANCE—Body repairs eliminated. No wear on bit head or reamer body. MONEY SAVED
9. CONE SERVICE—New CP "Red Head" cutting cones can be refitted on your used bearings (only at authorized CP Service Stations) and guaranteed by CP to be as good as if a new bearing were used—at a great saving to you! ECONOMY

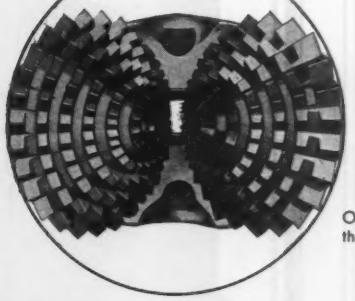


(PATENTED)

CLEARANCE!

Over 34% of hole area is clear. "Balling up" is eliminated.

STRAIGHT HOLE!



Over 34% of the hole area is clear!

NOTE, in the illustration at the left, the amount of CLEARANCE, or OPEN HOLE (indicated by the white areas) between the gauge of the cutting cones and the largest diameter of the reamer body, which is formed by the reamer cutters. Note, too, in the above illustration, another view of this CLEARANCE—the amount of open hole formed by the bit body and the cutting cones as presented to the bottom of the hole! When you drill with a CP "Tucone" Rock Bit, OVER 34% OF THE HOLE AREA IS CLEAR—a feature that insures free circulation of the up-going fluid stream, cuts down the clogging of loosened formation, reduces friction and aids in the drilling of STRAIGHT HOLE!

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: Chicago Pneumatic Bldg., 6 East 44th St., New York

OIL TOOL DIVISION OFFICES:

OKLAHOMA CITY, OKLA. 655 Santa Fe Ave., LOS ANGELES, CAL.

KEEPS GAUGE "ALWAYS!" OT-13

That the use of CP "Tucone" Rock Bits will unquestionably result in lower drilling costs, we are ready and willing to prove in any way YOU say! An inquiry to any of the above addresses will receive immediate attention.

The name Bethlehem is marked at intervals on every length of Bethlehem Steel Pipe—assurance that Bethlehem Pipe embodies the same high quality found in other Bethlehem products.

Made to meet those requirements that determine enduring service

Bethlehem Steel Pipe is made to meet those requirements that determine enduring service. Each step in its manufacture is carried out with this objective. Strength, uniformity, ductility, sound welds, clean, smooth surfaces, freedom from flaws, resistance to corrosion—these are qualities assured by careful manufacture and by tests and inspections far more rigid than standards require.

Bethlehem's high standard of quality is made possible through its facilities for manufacturing; the special processes employed; the quality of the raw materials; the ideals and skill of the men employed — achievements of an organization with more than 50 years of experience as makers of quality steel and steel products.

The nearest Bethlehem District Office will gladly give you further information about Bethlehem Steel Pipe. Your inquiry or order will receive immediate attention.

BETHLEHEM STEEL COMPANY

General Offices: BETHLEHEM, PA.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Detroit, Cincinnati, Chicago, St. Louis, San Francisco, Los Angeles, Seattle, Portland, Honolulu.

Bethlehem Steel Export Corp., 25 Broadway, New York City
Sole Exporters of our Commercial Products

Bethlehem maintains at Los Angeles, Cal., and at Houston, Tex., well-assorted stocks of line pipe, ready for immediate shipment. Both threaded and coupled and plain-end pipe are included in these stocks.

BETHLEHEM STEEL PIPE

Texas soils hold no fears where pipe lines are armored in Carey Pipe Line Felt.

Safe in a stronghold of asbestos armor

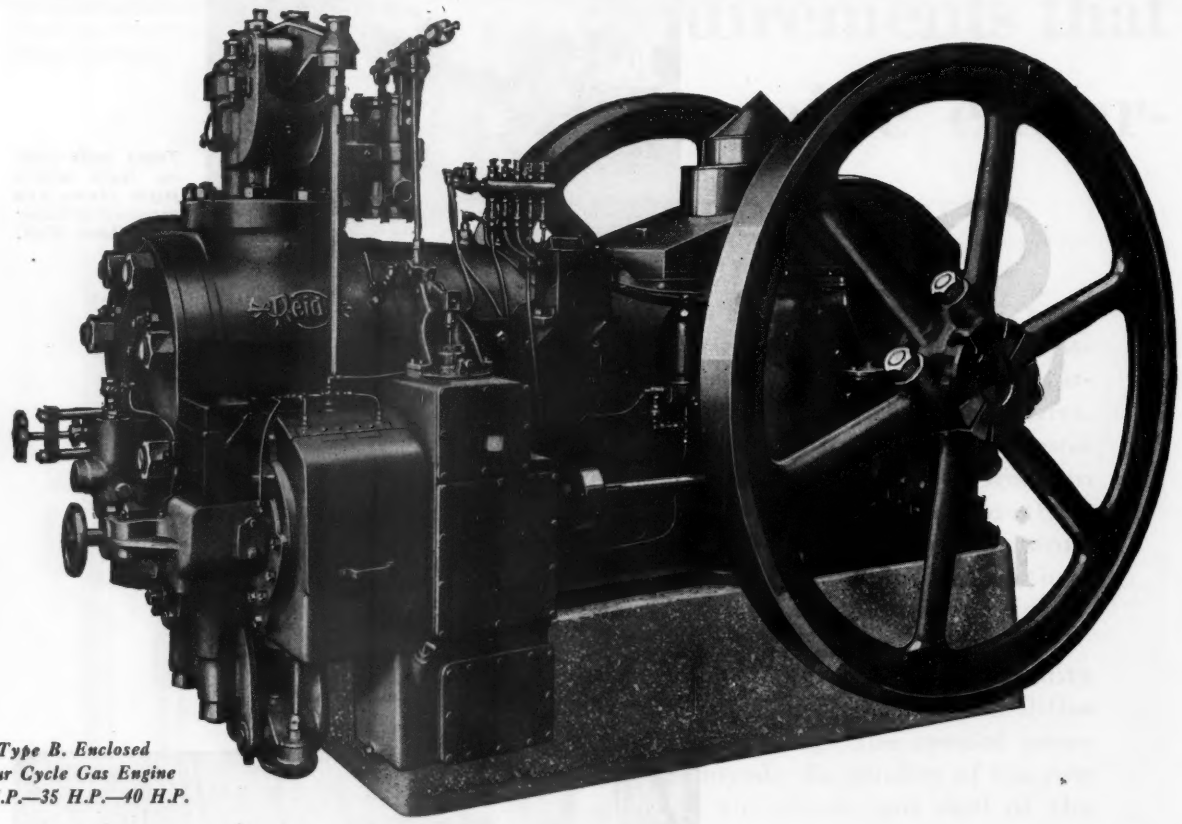
Seeping drainage — chemical-laden soils — corrosion! Let them do their worst. They are fighting a hopeless battle when your pipe lines are shielded with Carey Asbestos Pipe Line Felt—a tough, rock-hard asbestos armor. You'll be surprised at the low cost of this time-proof protection. Write.

Showing Carey Asbestos Pipe Line Felt being applied by common laborers to Big Inch gas lines of the Magnolia Gas Company, near San Antonio, Texas. Bonded on, hot or cold, Carey Asbestos Pipe Line Felt stays put. It will not shatter when the pipe is lowered into place.

Special Industries Department
THE PHILIP CAREY CO., *Lockland*, Cincinnati, O.
R. B. HALL, Special Mid-Continent Representative
417 Magnolia Bldg.
Dallas, Texas

Carey
ASBESTOS PIPE LINE FELT

Pronounced Quality and Value



Type B. Enclosed Four Cycle Gas Engine 30 H.P.—35 H.P.—40 H.P.

Reid
TRADE MARK REGISTERED

OIL FIELD MACHINERY

REID Type B Enclosed Four Cycle Gas Engines, with their modern mechanical refinements, have pronounced characteristics of quality and value. Ruggedness and durability are combined with smooth and efficient operation. There is stamina to withstand long periods of hard use without servicing or adjustment. And there is ample reserve power to care for the overloads.

Our new catalog—No. 50—gives a complete description of these engines. Ask for it at any branch or agency.

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES:

Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

EXPORT SALES REPRESENTATIVE—Oilfield Equipment Co., Inc., 30 Church Street, New York City.

DISTRIBUTORS:

Frick-Reid Supply Corp., Pittsburgh, Pa., and Tulsa, Oklahoma, Distributors for Bradford and Pittsburgh, Pa., Kentucky, Oklahoma, Kansas, Texas, Arkansas, Louisiana and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co. of California, office address, 2122 East Seventh St., Los Angeles, Calif.

National
CASING PROTECTORS

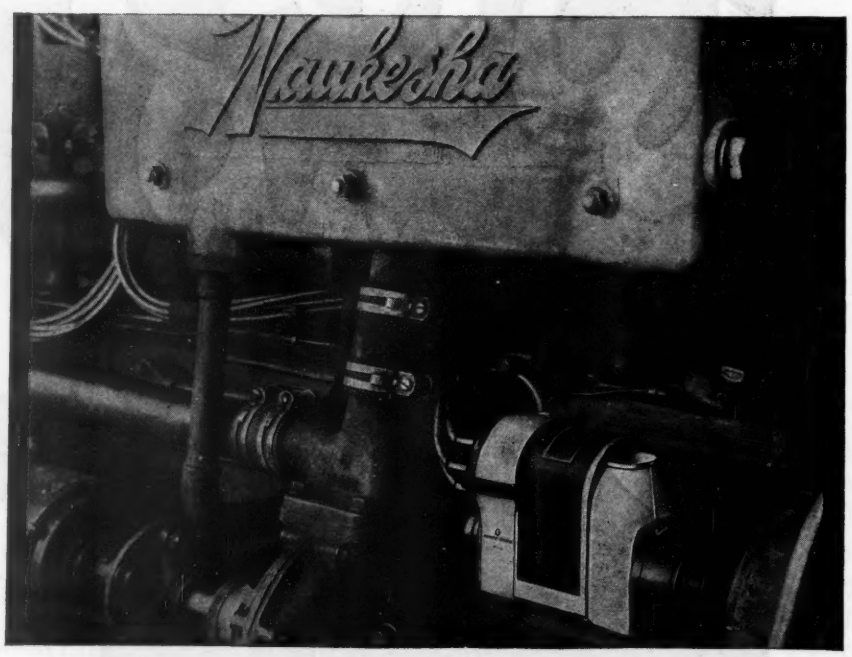
Will not stack on the Drill Pipe

One of the most *troublesome* things on a drilling rig is a string of *casing protectors* that are *piled* up on a *string of drill pipe!* . . . You can *eliminate this trouble* by using National Casing Protectors, for they WILL NOT STACK on the DRILL PIPE! . . . Their steel dies keep them intact to their original positions . . . Give them a trial and let their performance prove the foregoing statements . . .

National
TOOL & METALS, INC.

P. O. Box 818
Torrance California

Pumping...
...pumping
...pumping
twice around the clock



WHY is an oil plant like the Graf Zeppelin? Because its engines have to keep pumping, pumping, pumping 24 hours a day.

Leave it to the Graf Zeppelin to minimize risk. Leave it to the "Zep" to find the most dependable ignition system. And leave it to the oil companies to do the same!

For the Graf Zeppelin, like many of the large important oil companies is equipped with Robert Bosch Super-Energy Magnetos—10 of them.

If you would take the trouble to compare the Super-Energy Magneto side by side with any other, you would quickly see why. Trouble sources have been eliminated. For instance, you can forget to oil this magneto without running into trouble, because its ball bearings are permanently lubricated. Expose it to water or dust and dirt and it works merrily on, because it is dustproof and waterproof.

Demand from it extra power—and it responds by generating the Super-Energy for which it is named.

For the giant gas engine of 1000 B. H. P. . . . for the smaller higher speed stationary engines of 15 B.H.P. . . . for other small engines down to the smallest single cylinder engine there is a suitable type of Super-Energy Magneto, just as there is for trucks, tractors, stationary, and airplane marine engines of all descriptions. Write for a copy of "Ignition Briefly Described," containing ignition information which you will find both interesting and useful.

ROBERT BOSCH MAGNETO CO., INC.
3601E Queens Blvd., Long Island City, New York, N. Y.

Only Robert Bosch Super-Energy Magnetos are Original-Bosch Magnetos. For your protection look for full name "Robert Bosch" and this trademark: . . . . . ⊕

The Original Bosch
ROBERT BOSCH PRODUCT?

Super-Energy
Magneto

DONOVAN BOILERS

ARE CONSISTENTLY GOOD

The First Choice

where hard work is certain because their record is right

Consider that—A DONOVAN drilled one of the world's deepest wells—7756′ deep.

A 25 H.P. DONOVAN drilled two wells, each 4600′ deep, after the boiler had been in use five years.

Two 25 H.P. DONOVANS, built in 1909 and still in use, have drilled 250,000′ of hole each.

Several DONOVANS, built in 1909, are still in use today.

DONOVANS are in use in practically every field of importance all over the world.

Users of DONOVANS include the largest and most successful companies and the oldest and most experienced contractors.

DONOVANS have demonstrated fuel economy, long life, ample power and correct design.

No better boilers are made.

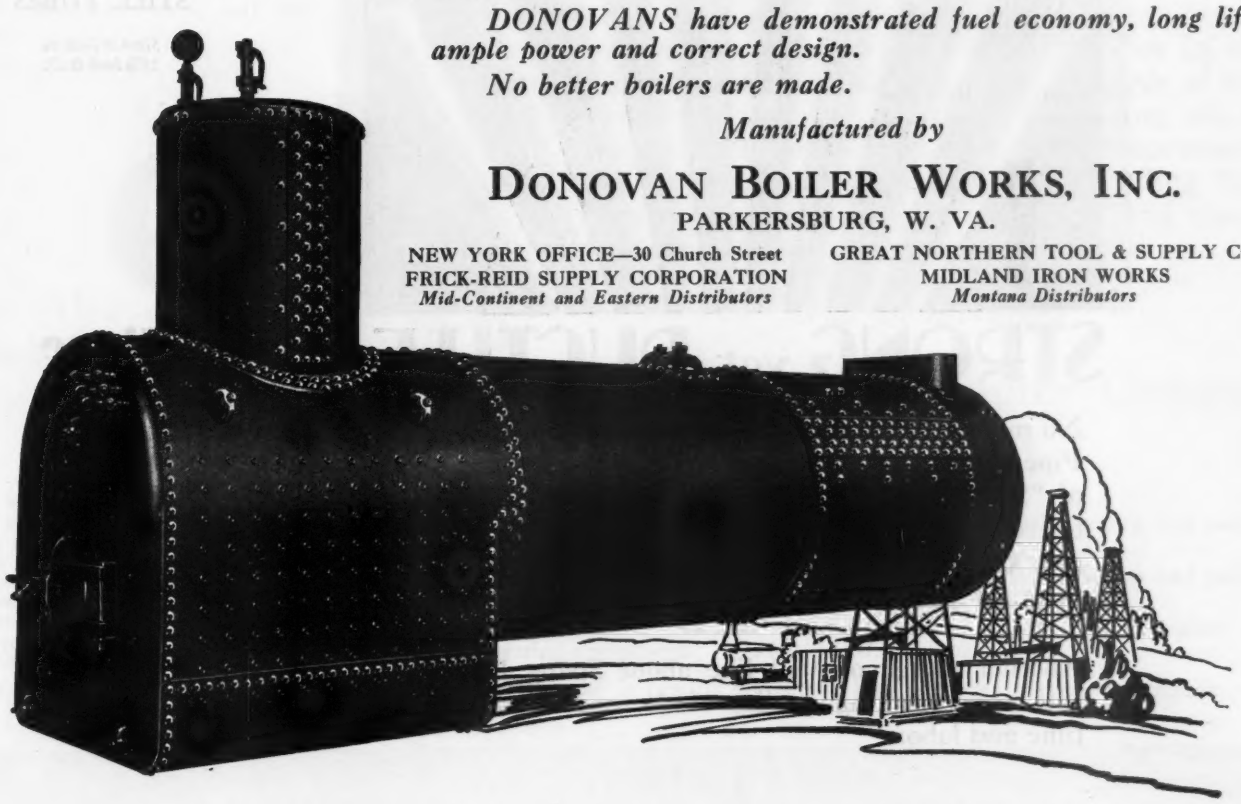
Manufactured by

DONOVAN BOILER WORKS, INC.

PARKERSBURG, W. VA.

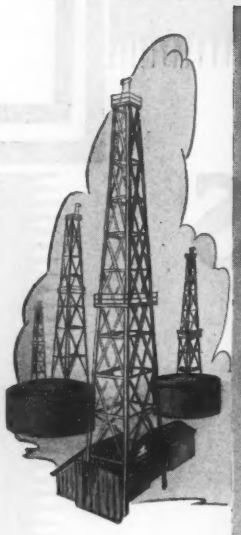
NEW YORK OFFICE—30 Church Street
FRICK-REID SUPPLY CORPORATION
Mid-Continent and Eastern Distributors

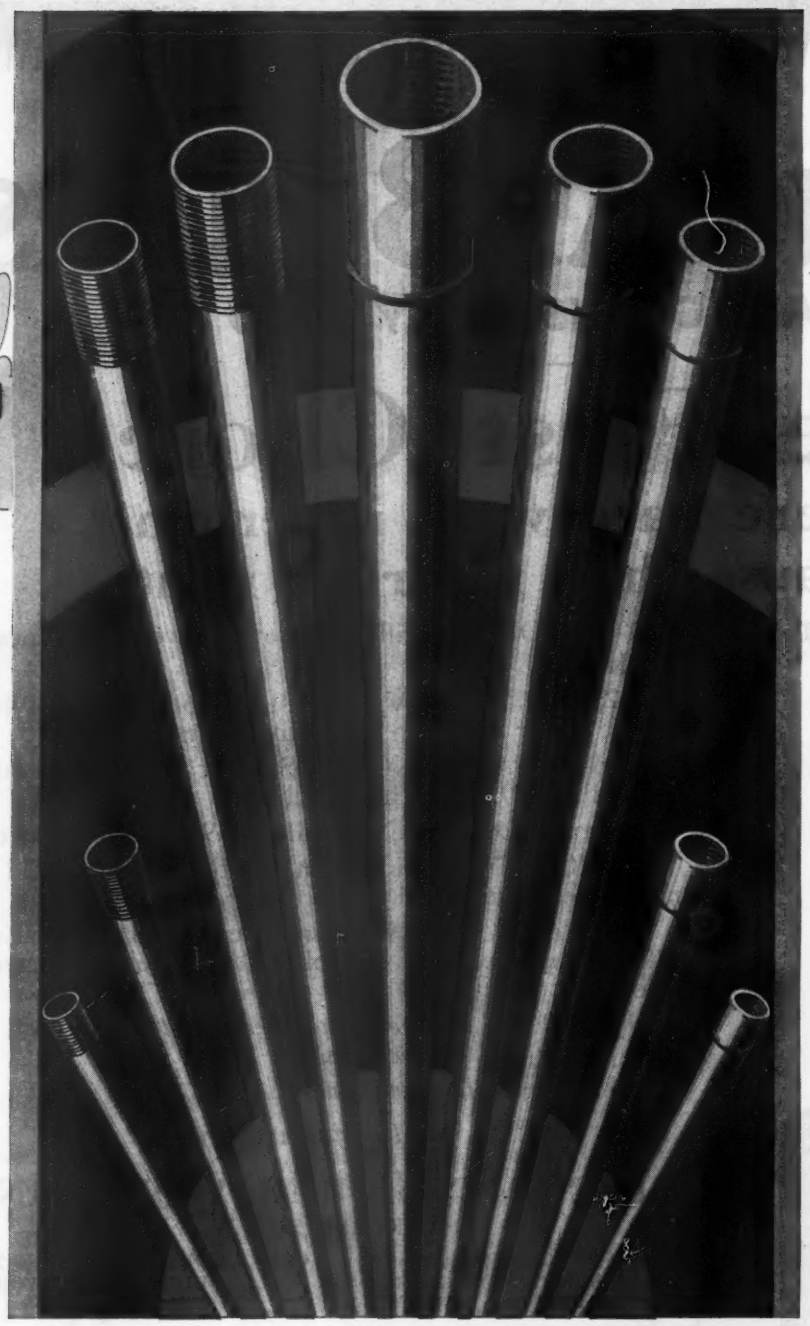
GREAT NORTHERN TOOL & SUPPLY CO.
MIDLAND IRON WORKS
Montana Distributors



All Leading Supply Houses Throughout the Eastern Fields Handle

DONOVAN QUALITY PRODUCTS





STRONG yet DUCTILE,

No matter what you consider important in pipe, Spang Pipe has it. Take strength, for example. Every length of "Spang" Welded and "Standard" Seamless Pipe is tested to withstand pressures higher than you will ever subject them in service—That means the maximum factor of safety for any emergency.

Another thing you will like about Spang Pipe is the soft, easy working quality of the special steel—saves time and labor.

WELDED

CASING
STANDARD PIPE
LARGE O. D. PIPE
LINE PIPE
DRIVE PIPE
DRILL PIPE

Sizes ⅛ inch to 24 inch O. D.

SEAMLESS

CASING
TUBING
DRILL PIPE
(Regular and Heat Treated)
LINE PIPE
STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

Since 1828

SPANG, CHALFANT & CO., INC.

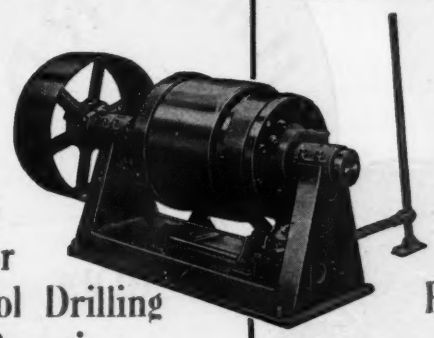
General Offices: **CLARK BUILDING, PITTSBURGH, PA.**

Sales Offices: CHICAGO, ILL. NEW YORK, N. Y. ST. LOUIS, MO. PITTSBURGH, PA. TULSA, OKLA. LOS ANGELES, CAL.
Welded Mills: ETNA, PENNA. SHARPSBURG, PENNA. ***Seamless Mills:*** AMBRIDGE, PENNA.

Franklin Valveless Oil and Gas Engines

Some of the Franklin OF Good Points

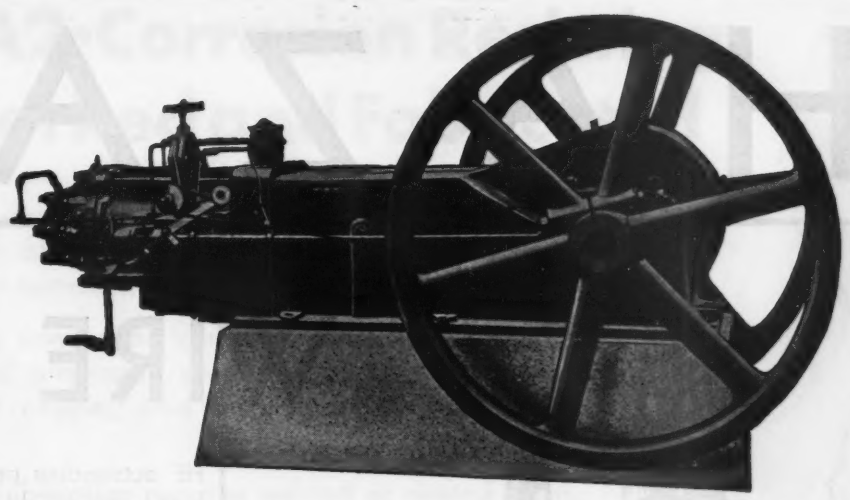
- Enclosed type
- Low fuel consumption
- 100% interchangeability
- Simplicity
- Piston rod is fitted with metallic packing which never needs adjusting or replacing
- Every spring exposed
- Complete simplicity with practically no adjustment
- In case of belt breakage engine automatically stops
- Fuel pump driven by eccentric running in oil bath
- Bearings are removable and reversible
- Only standard threads used. No special wrenches required
- Cylinder has 3 point force feed lubrication
- Balance of lubrication is splash feed
- Pistons are air cooled
- All nuts subject to vibration are castillated and fastened with cotter pins
- Most economical to operate in fuel, lubricant, water and repairs
- Easy to start



Type BG Clutch for Cable Tool Drilling or Pumping

- A vast improvement over the former type of clutches.
- Driven from pulley on engine. Permits the use of a larger diameter pulley and makes possible a slower clutch speed. Operates by hand lever on derrick.
- Construction and design prevent Reverse Clutch Troubles.

PRICE—$1200.00 F.O.B. Franklin, Penna.



New FRANKLIN OF Driller
The Engine With the Pedigree

Back of the new Type OF Franklin Valveless Engine are years of development work—and engines which in their time stood unsurpassed.

But—new times—new conditions. So here is the Type OF—an engine in its proper size, capable of going as deep into the ground as you need to go—at a smooth, swift pace and economically.

Whether your wells are located in proven fields or in isolated sections, you cannot beat the Franklin records of low operating costs — in fuel, lubricating oil or water. Both drilling and pumping sizes mount on the same block with corresponding bolt holes. Portable, light, powerful and easily serviced. What more could you ask?

Send for literature.

Franklin Valveless Engine Company
Franklin, Penna.

PRICES

40 H.P. Type OF Franklin, including water circulating pump and pulley. *$1550 F.O.B. Franklin*

50 H.P. Type OF Franklin, including water circulating pump and pulley. *$2050 F.O.B. Franklin*

80 H.P. Type OF Franklin, including water circulating pump, pulley and air starting equipment. *$3200 F.O.B. Franklin*

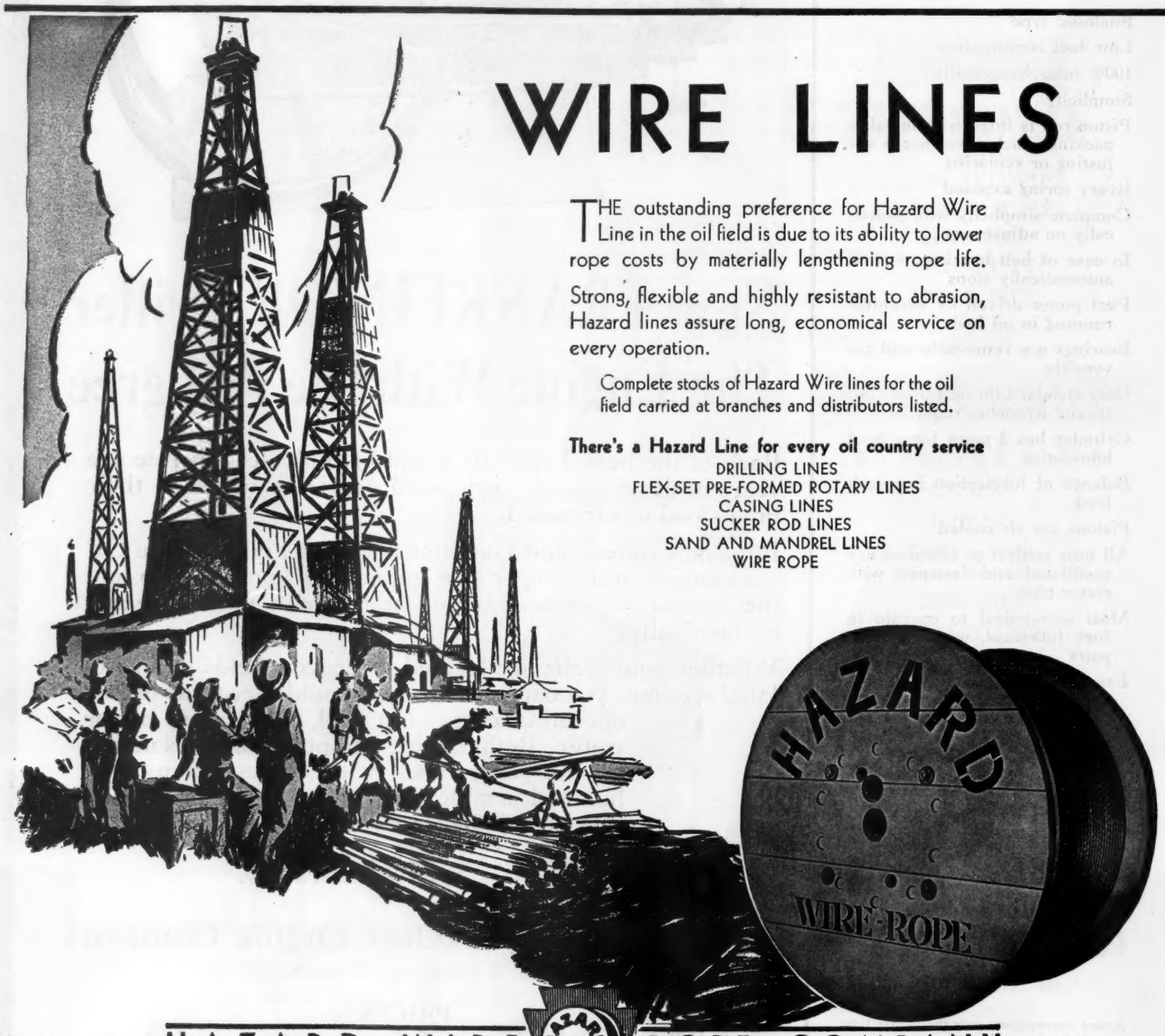
NOTE — Type OF is readily converted into type OG for gas fuelization.

Distributed by

OIL WELL SUPPLY COMPANY

Branches in All Oil Fields

HAZARD



WIRE LINES

THE outstanding preference for Hazard Wire Line in the oil field is due to its ability to lower rope costs by materially lengthening rope life.

Strong, flexible and highly resistant to abrasion, Hazard lines assure long, economical service on every operation.

Complete stocks of Hazard Wire lines for the oil field carried at branches and distributors listed.

There's a Hazard Line for every oil country service

DRILLING LINES
FLEX-SET PRE-FORMED ROTARY LINES
CASING LINES
SUCKER ROD LINES
SAND AND MANDREL LINES
WIRE ROPE

HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

1625 South Troost Ave., TULSA, OKLA.

New York Pittsburgh Chicago Denver Los Angeles San Francisco Birmingham

DISTRIBUTORS

BOVAIRD SUPPLY CO.
904 Mid-Continent Bldg., Tulsa, Okla.
Borger, Texas; Beggs, Oklahoma; Maud, Oklahoma; Sapulpa, Oklahoma; Seminole, Oklahoma; Tulsa, Oklahoma; Independence, Kansas; Wichita Heights, Kansas; Winfield, Kansas.

CAMERON TOOL & SUPPLY CO.
Cameron, W. Va.

CROTTY & CO.
Parkersburg, W. Va.

DANSER SUPPLY CO.
Weston, W. Va.

FORT WORTH WELL MACHINERY & SUPPLY CO.
Fort Worth, Texas

GREAT NORTHERN TOOL & SUPPLY CO.
Billings, Mont.

HOUSTON OIL FIELD MATERIAL CO., Inc.
Houston, Texas

LONGHART SUPPLY CO.
619 Petroleum Bldg., Fort Worth, Texas
Big Springs, Texas; Graham, Texas; McCamey, Texas; McLean, Texas; Pampa, Texas; Pyote, Texas; Ranger, Texas; Rankin, Texas; Santa Rita, Texas.

MID-CONTINENT SUPPLY CO.
Fort Worth, Texas

MOUNTAIN IRON & SUPPLY CO.
Parkersburg, W. Va.; El Dorado, Kansas; Eureka, Kansas; Madison, Kansas; Valley Center, Kansas; Wichita, Kansas.

PRICHARD SUPPLY CO.
Mannington, W. Va.

PRODUCERS SUPPLY & TOOL CO.
Marietta, Ohio; St. Mary's, W. Va.; Fort Worth, Texas; Olney, Texas; Graham, Texas; Bristow, Oklahoma; Coleman, Texas; Muenster, Texas.

UNITED OIL WELL & SUPPLY CO.
Los Angeles, Cal.

Enduro KA2 · Corrosion Resisting · Easily Worked and Fabricated

IN BUILDING APPARATUS designed to withstand corrosive attack, Enduro KA2 overcomes many of the production difficulties accompanying fabrication of other corrosion-resisting materials.

Besides providing unequalled corrosion resistance, the patented Krupp method of processing gives Enduro KA2 approximately the ductility of copper, and working qualities similar to ordinary steel.

Whether the fabrication requires welded or riveted joints, flanged or dished heads, bent tubes or pipe, no difficulties are encountered. And all parts can be made of Enduro KA2 since this material is available in all common shapes and forms.

Enduro KA2 possesses all qualifications for long economical service—high corrosion resistance, high strength, and ready workability. Send for descriptive literature.

Enduro Nirosta KA2 Available in
Plates · Sheets · Bars · Strips · Forging Blanks · Shapes · Seamless Pipe and Tubing · Welding Rods · Castings · Wire

ENDURO NIROSTA KA2 STEEL

CENTRAL ALLOY STEEL CORP.
Massillon and Canton, Ohio

LUDLUM STEEL CO.
Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO.
85 Liberty Street, New York, N. Y.

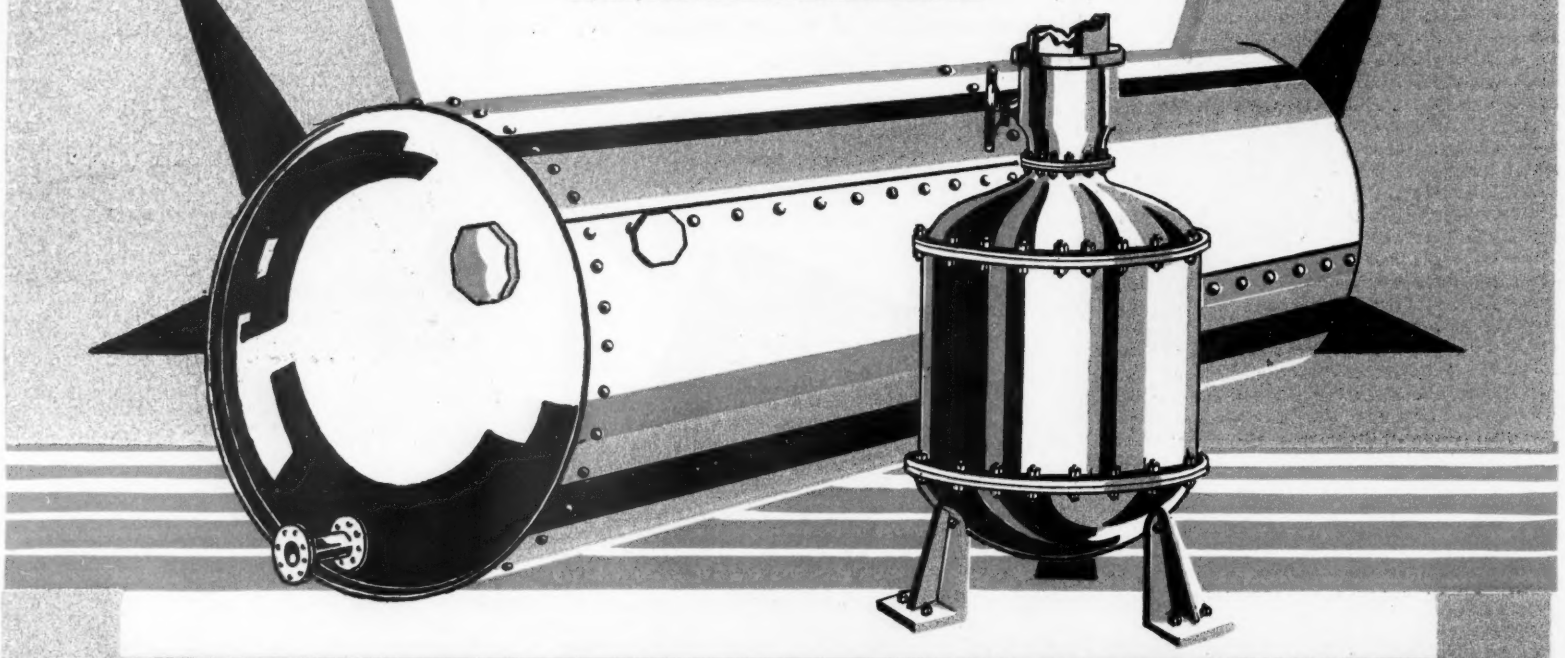
Enduro KA2 is available in All Required Shapes and Forms

OF PARAMOUNT IMPORTANCE to designers of equipment used in the manufacture or transportation of corrosive products is the fact that Enduro KA2 can be obtained in every usual form, thus avoiding electrolytic action by permitting all parts to be made of the same material.

Enduro KA2 is available in the following shapes and forms:

Rounds—hot rolled, cold drawn, centerless ground and polished.
Squares—hot rolled and cold drawn.
Hexagons—hot rolled and cold drawn.
Flats—hot rolled and cold drawn.
Sheets—standard gauges and sizes, annealed and pickled, one side polished and both sides polished.
Plates—in practically any size and thickness obtainable in plain steel; large size one-piece flanged and dished heads.
Strip—hot rolled.
Forging blanks—any reasonable weight or size.
Shapes, angles, channels, etc.—Sizes on application.
Pipe and Tubing—Seamless.
Welding Rods—⅛", 5/32", 3/16" diameter. Coated and uncoated carried in stock for electric and acetylene welding.
Castings—can be furnished of Enduro KA2 analysis.

Bolts and nuts, rivets, screws, cold rolled strip, wire and many other items can be obtained of Enduro KA2.



ENDURO
NIROSTA
KA2 STEEL

CENTRAL ALLOY STEEL CORP.
Massillon and Canton, Ohio

LUDLUM STEEL CO.
Watervliet, N. Y.

THE BABCOCK & WILCOX TUBE CO.
85 Liberty Street, New York, N. Y.

OLD CLARK ENGINES

IN NEW PLANTS

THE Clark Engines of ten years ago were created by an organization which at that time had forty years of experience in designing and building engines to perform efficiently and to stand up. As a result you see many new plants equipped with CLARK 2-cycle compressors of an old type. Also you see Clark "Super 2s"—or Clark Double Acting Engines using the famous Super 2 principle—when the same operators select new engines.

Clark Bros. Company, Olean N. Y. Export Office: 150 Broadway, N. Y. C. Mid-Continent Sales Offices: Tulsa and Fort Worth. Warehouses: Tulsa; McCamey and Sweetwater, Texas; Artesia, N. M. California: Smith, Booth, Usher Company, 228 S. Central Ave., Los Angeles.

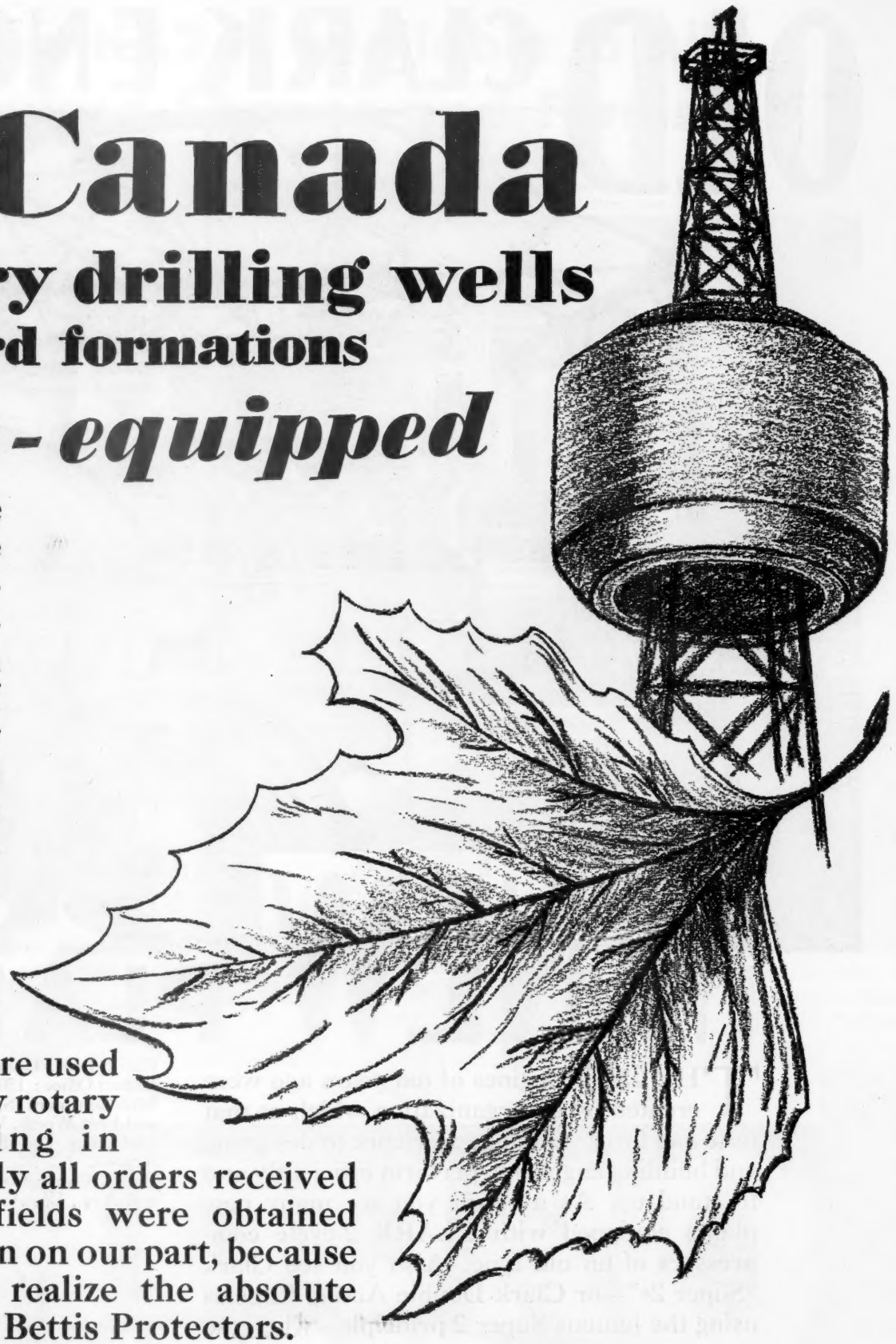
Compressors and Gas Engines

CLARK

In Canada

all rotary drilling wells in hard formations

Bettis-equipped



Few drillers in the States realize the extreme difficulties of drilling encountered in Canada. Many of the wells are over one mile deep and extremely high pressures are encountered. All types of formations must be drilled through.

Bettis Protectors are used in practically every rotary well now drilling in Canada. Practically all orders received from Canadian fields were obtained without solicitation on our part, because Canadian drillers realize the absolute necessity of using Bettis Protectors.

NEW CATALOG JUST OFF THE PRESS—ASK FOR A COPY

Patterson-Ballagh Corp.

Insurance Exchange Building
Los Angeles

Texas and Gulf Coast Distributors:
Bettis Sales Co., 616 Public National Bank Bldg., Houston

Oklahoma Distributors:
Bailey and Becker Company, 2416 No. Boston Pl., Tulsa

New York Office: 39 Cortlandt St.

Carried in stock at Los Angeles, Santa Fe Springs, Ventura, Kettleman Hills, Bakersfield, Coalinga, Long Beach, Tulsa, Houston, Wink, Texas; Calgary, Alberta, Canada; New York City.

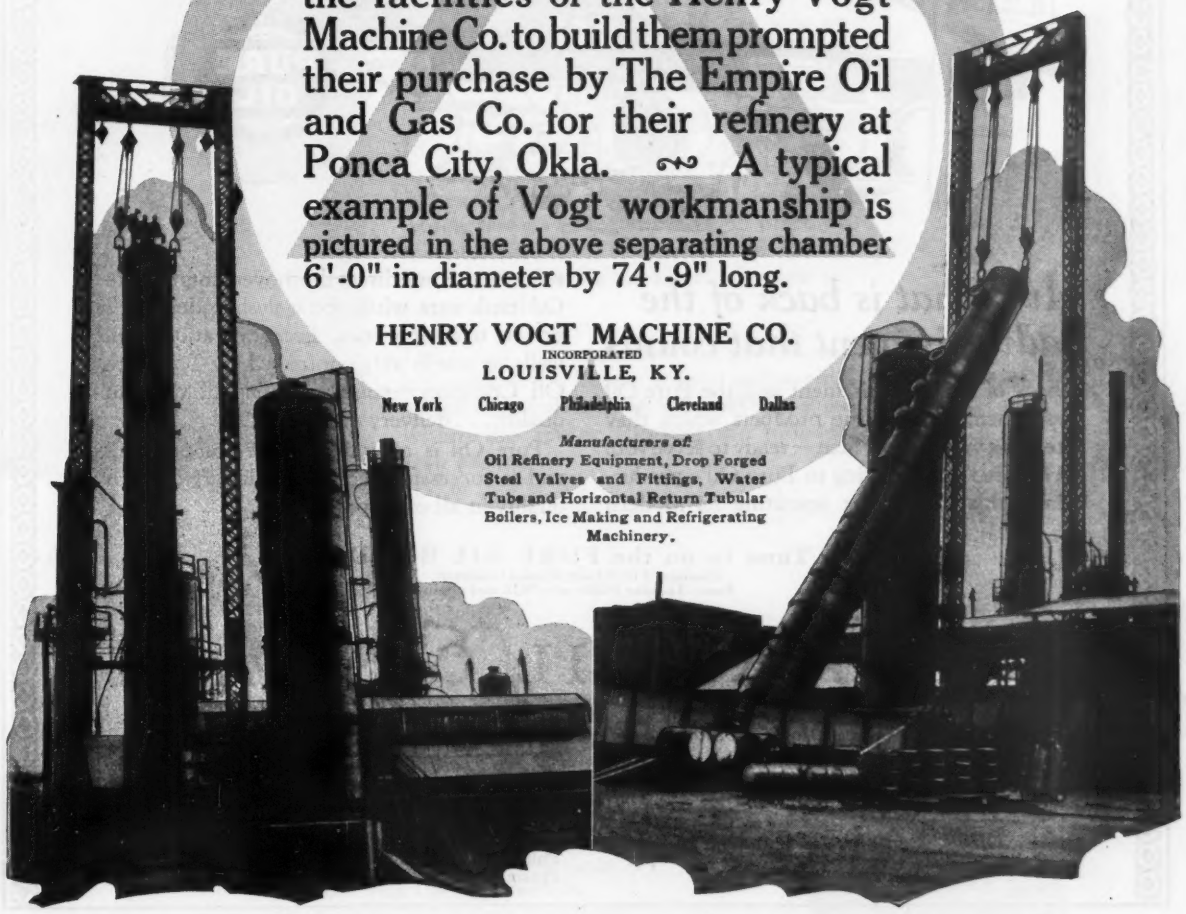
"Best bet yet!"

In all rotary drilling fields throughout the World Bettis Protectors are used. It is a well-conceded fact that extra deep drilling has been made possible by use of Bettis Protectors.

Vogt

Stills For Empire

Confidence in riveted vessels and the facilities of the Henry Vogt Machine Co. to build them prompted their purchase by The Empire Oil and Gas Co. for their refinery at Ponca City, Okla. ∞ A typical example of Vogt workmanship is pictured in the above separating chamber 6'-0" in diameter by 74'-9" long.



HENRY VOGT MACHINE CO.
INCORPORATED
LOUISVILLE, KY.

New York Chicago Philadelphia Cleveland Dallas

Manufacturers of
Oil Refinery Equipment, Drop Forged Steel Valves and Fittings, Water Tube and Horizontal Return Tubular Boilers, Ice Making and Refrigerating Machinery.

It's what is back of the advertisement that counts

Back of this advertisement and the Pure Oil salesmen, back of the products which they sell, is a vast army of men—ready to serve you. Hundreds are working in Pure Oil's producing fields, others are operating its modern refineries. Some direct the movements of Pure Oil tank cars while some flash orders over private telegraph lines. *Every* operation from wells to you is ably controlled by The Pure Oil Company—your assurance of uniform quality . . . delivery on the dot!

Pure Oil is an independent company . . . and is successful because of unvarying high quality in all of its products,

Tune in on the PURE OIL BAND
Conducted by Edwin Franko Goldman
Every Tuesday Night over WJZ and chain

THE PURE OIL COMPANY

U. S. A.

Producers, Refiners, Marketers of a complete line of petroleum products

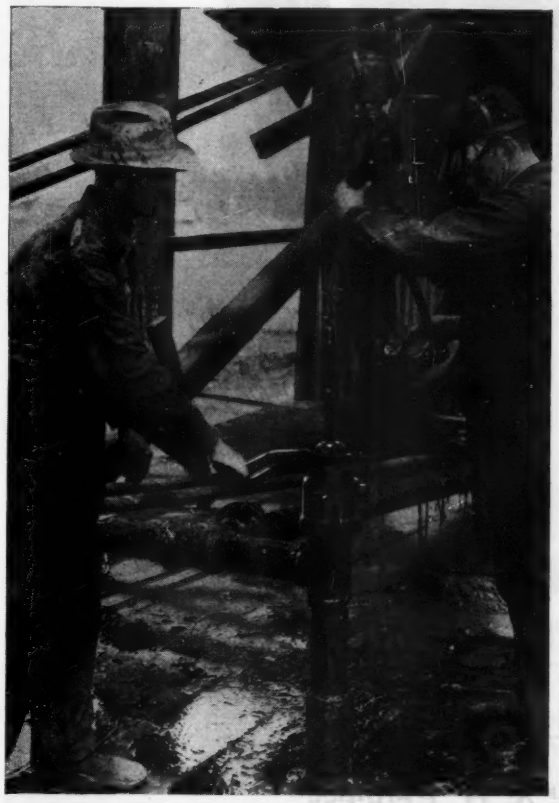
REFINERIES:

Marcus Hook, Pa.
Cabin Creek Jct., W. Va.
Heath, Ohio
Ardmore, Okla.
Muskogee, Okla.
Smith's Bluff, Texas

SALES OFFICES:

Chicago
New York
Minneapolis
Philadelphia
Pittsburgh
Columbus, O.
Charleston, W. Va.
Norfolk, Va.
Atlanta, Ga.
Tampa, Fla.
Miami, Fla.
Pensacola, Fla.
Tulsa, Okla.
Beaumont, Tex.

THE *fast* way to handle SUCKER RODS



Axelson has developed and is offering the trade Sucker rod slips and a spider which embrace speed and ease of operation. The use of one rod elevator is eliminated either when "running in" or on a "pull out" job.

In addition to the actual saving in time of operation the kinking of rods is reduced to a minimum. The slips work on any part of the rod and will positively not burr or scar the surface.

In place, the slips will hold any size or length rod string in use today. To release the rods from the slips is positive and easy.

In construction the sucker rod slips are made in three sizes to fit ⅝", ¾" and ⅞" rods. All of these slips fit one spider which screws into the tubing in place of the pull nipple. The sucker rod spider has a split nipple to take any size or thread tubing.

On a pull job when the plunger assembly reaches the floor a special ball spring attachment releases an internal slip shoe within the spider allowing the plunger free passage.

Axelson

SUCKER ROD SLIPS & SPIDER

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Axelson Machine Company

P. O. Box 337, Los Angeles

Tulsa St. Louis

New York City, 30 Church St.

Mid-Continent and Eastern Distributors

Frick-Reid Supply Corporation

Axelson Sucker Rods

"Jammer" loading genuine Northern White Cedar Poles from skids to sleds, Page & Hill Co. winter woods operations in Northern Minnesota.

P&H

Dependable POLES

THE long-established reputation of "P & H Process" Poles for reliable service and long life is the result of four factors:

—extraordinary care in the selection of timber,
—uncommon skill in each manufacturing operation,
—an unusually exacting inspection system,
—and the exclusive "P & H Process" of Butt-Treatment.

Dependable Shipping Service Complete stocks, strategic location of plants, prompt loading and efficient car tracing make P & H Shipping Service an outstanding achievement.

"Still in the Lead"

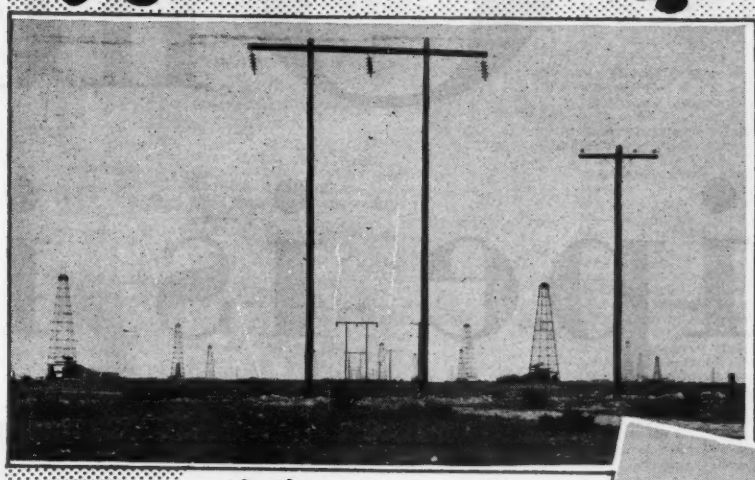
PAGE AND HILL CO.

MINNEAPOLIS, MINN.

Kansas City, Mo., 517 Pioneer Trust Bldg. Chicago, Ill., 19 So. La Salle St. New York, N. Y., 50 Church St.
Omaha, Neb., 711 Electric Bldg. Dayton, Ohio, 854 Reibold Bldg. Boston, Mass., 733 Public Service Bldg.

SERVING WEST TEXAS

typical "high lines" to proven oil fields



oil field high lines

auxiliary stations

—from one of Our Modern Auxiliary Stations

Carefully erected highlines with two and three way service extend over 2000 miles; and are even more carefully guarded and maintained—to bring oil operators throughout 45 West Texas Counties dependable, economical power from our three great Generating Stations and fifteen auxiliary stations.

110 Centers of Distribution are Ready to give Your Needs Personal Attention

WEST TEXAS UTILITIES COMPANY
In the Land of Opportunity
General Offices Abilene, Texas

NEW LINES CONTEMPLATED?

Investigate the new Hill, Hubbell & Company process of mechanically coating and wrapping pipe *at the mill.* Biturine Coatings are particularly adapted for use with this process.

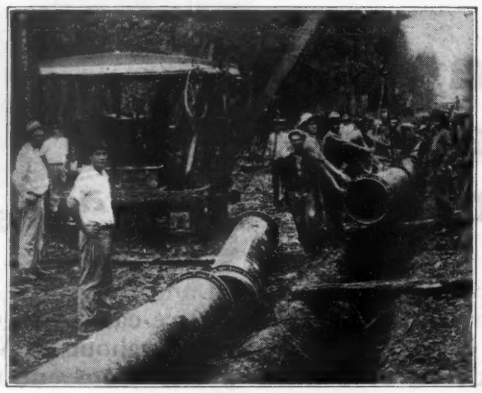
Once the pipe is in the ground

Pipe is expensive. Pipe laying is a costly operation. But the taking up and reconditioning of old pipe lines—laid without the proper protection—is the most expensive operation of all.

Once unprotected pipe has been lowered into the ground, corrosion starts—begins to levy its appalling toll.

You can protect your pipe line investment *before* corrosion sets in. For twenty-three years this organization has been developing a group of protective coatings to meet the specialized needs of the oil industry.

Biturine Coatings have earned the respect and enthusiastic endorsement of pipe line operators and their engineering staffs, for Biturine has met the exacting requirements of rigid competitive tests and is today demonstrating its superiority in thousands of miles of pipe lines.



Inter-State Gas Company Line from Monroe, La., to Natchez, Miss., Coated Outside with Biturine Enamel

BITURINE COATINGS

Biturine Enamel — Biturine Enamel Primer*
Biturine Coupling Solution
Biturine Solution No. 5 — Biturine 70-30

Biturine Enamel Primer can be obtained with Inhiburine

We will be glad to furnish you with records of service of Biturine coated lines upon receipt of your inquiry at any of the offices listed below.

***INHIBURINE**

This entirely new inhibitor with extraordinary anti-corrosive powers is now being incorporated into Biturine Primer whenever specified. Being solvent in Bitumens it becomes an integral part of the priming coat and thereby functions as a second line of defense against corrosion should the Biturine Enamel Coating be penetrated.

GENERAL PAINT CORPORATION

HILL, HUBBELL & COMPANY DIVISION

CHICAGO NEW YORK TULSA HOUSTON DALLAS SAN FRANCISCO OAKLAND
LOS ANGELES PORTLAND SEATTLE SPOKANE

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co 166
Ajax Iron Works .....
Ajax Rope Co. .....
Alco Oil Tool Co. .....
Allegheny Steel Co. .....
Allis-Chalmers Mfg. Co. .....
All Steel Products Mfg. Co. .....
Aluminum Co. of America .....
American Askania Corp. .....
American Asphalt Paint Co. .....
American Cable Co., Inc. .....
American Fomon Co. .....
American Iron & Machine Works Co. ....
American La France & Foamite Corp. ..
American Radiator Co. .....
American Roller Bearing Co. .....
American Rolling Mill Co. .....
American Schaeffer & Budenburg Corp.
American Sheet & Tin Plate Co. .....
American Steel & Wire Co. .....
American Steel Works .....
American Telephone & Telegraph Co. ....
American Well Works 112
Anchor Post Fence Co. 158
Andrews Steel Co., The 164
Armstrong Bros. Tool Co. 175
Armstrong Machine Works .....
Ash Grove Lime & Portland Cement Co.
Athey Truss Wheel Co. .....
Axelson Machine Co. 29
Ayer & Lord Tie Co. .....

B

Baash-Ross Tool Co. 155
Babcock & Wilcox Tube Co., The 24-A,24-B
Badger, E. B., & Sons Co. .....
Baker Oil Tools, Inc. 9
Baldwin Chain & Mfg. Co. .....
Barco Manufacturing Co. .....
Barnickel, Wm. S., & Co. .....
Barnsdall Refineries, Inc. .....
Barrett Co., The 114-115
Bartlett Hayward Co., The .....
Beaumont Iron Works Co., The .....
Bell Oil & Gas Co. .....
Bendster Burner & Engineering Co. ....
Bessemer Engine Co. 94-95
Bethelehem Steel Co. 16
Bigelow Liptak Corp. .....
Big Lake Oil Co. .....
Bignall & Keeler Machine Works 12
Blackor Co. 103
Black, Sivalls & Bryson, Inc. 57
Bosch, Robert, Magneto Co., Inc. 20
Braden Steel Corp. .....
Braun, C. F., & Co. .....
Brewster Co., Inc., The .....
Bridgeport Machine Co. .....
Bristol Co., The .....
Broderick & Bascom Rope Co. .....
Brown, Arthur C. 175
Brown Instrument Co. 13
Brown Strauss Corp. .....
Buckeye Traction Ditcher Co. .....
Buda Co., The .....
Buffalo Gasolene Motor Co. .....
Burt Mfg. Co. .....
Butler Mfg. Co. .....
Byers, A. M., Co. .....
Byron Jackson Co. .....Back Cover

C

California Manufacturing & Engineering Co. .....
Cameron Tool & Supply Co. .....
Carey, The Philip, Co. 17
Caterpillar Tractor Co. .....
Central Alloy Steel Corp. 24-A, 24-B
Central Tube Co. .....
Cessna Aircraft Co. .....
Chain Belt Co. .....
Champion Machine & Forging Co., The.160
Chaplin-Fulton Mfg. Co., The 160
Chapman Valve Mfg. Co., The .....
Chicago Bridge & Iron Works .....
Chicago Pneumatic Tool Co. 15
Chicago Steel Foundry .....
Chisholm-Moore Hoist Corp. .....
Clark Bros. 25
Classified Wants 124-125
Cleveland Trencher Co., The .....
Climax Engineering Co. .....
Colona Mfg. Co. .....
Columbian Rope Co. .....
Columbus Forge & Iron Co., The .....
Columbus Valve Mfg. Co., The .....
Consolidated Ashcroft Hancock Co., Inc.
Continental Supply Co., The .....
Cook, C. Lee, Mfg. Co., ...
Cooper-Bessemer Corp., The 94-95
Cooper, C. & G., Co., The 94-95
Crane Co. 162
Crane Packing Co. .....

D

D. & B. Pump & Supply Co. 99
Darling Valve & Mfg. Co. .....
Dart, E. M., Mfg. Co. 166
Davis, G. M., Regulator Co. .....
Dearborn Chemical Co. .....
Delta Electric Co. 175
Detroit Graphite Co. .....
Dodge Bros. Corp. .....
Doheny Stone Drill Co. .....
Donner Engineering Co. .....
Donovan Boiler Works, Inc. 21
Dow Chemical Co., The .....
Drane Humphreys Co., Inc. .....
Dresser & Gorton, Inc. .....
Dresser, S. R., Mfg. Co. 45
Du Pont de Nemours & Co., Inc., E. I. ..
Durametallic Corp. .....

E

Eagle-Picher Lead Co. .....
Eclipse Lubricator Co., Inc. .....
Economy Pump & Oil Tool Co., The ....
Edward Valve & Manufacturing Co., The
Elliott Core Drilling Co. .....
Empire Oil & Refining Co. .....
Emsco Derrick & Equipment Co. 99
Enduro Niros a Steel Co. 24-A, 24-B
Engineering Research & Equip. Co. 128
Ethyl Gasoline Corp. .....
Exchange Banks of Tulsa .....

F

Feedwaters, Inc. .....
Fenwick-Reddaway Mfg. Co. 162
Ferodo & Asbestos, Inc. .....
Fisher Governor Co. .....
Fisk Tire Co., The .....
Flagg & Co., Inc., Stanley G. .....
Fluor Construction Co. .....
Fort Worth Steel & Machinery Co. ....
Foster Wheeler Corp. 77
Four Wheel Drive Auto Co., The .....
Franklin Engineering Co., Inc., The .....
Franklin Valveless Engine Co. 23
Frates Co., The .....
Frick-Reid Supply Corp. .....
Fulton Iron Works Co. .....

G

G & M Co., Inc., The .....
Gardner-Denver Co. .....
Garlock Packing Co. .....
Gaso Pump & Burner Mfg. Co. .....
.....Inside Back Cover
General Electric Co. .....
General Paint Corp. 32
Gilbert & Barker Mfg. Co. .....
Goble, B. G. .....
Goodrich, B. F., Rubber Co., The .....
Goodyear Tire & Rubber Co. .....
Goslin Birmingham Mfg. Co., Inc. 157
Gotham, H. P., Mfg. Co., Inc. .....
Goulds Pumps, Inc. .....
Grant Oil Tools Co. 93
Graver Corp. .....
Gray Processes Corp., The 67
Greene, Tweed & Co. .....
Greenspon's, Joseph, Sons, Iron & Steel Co. 157
Griscom-Russell Co. .....
Guiberson Corp. 63
Gulf Refining Co. .....

H

Halliburton Oil Well Cementing Co. 104
Hanlon-Waters, Inc. 88-89
Harrisburg Pipe & Pipe Bending Co. 6
Haynes Stellite Co. .....
Hazard Wire Rope Co. 24
Heat Transfer Products, Inc. .....
Heeter, Sons & Co., Inc., C. M. .....
Hercules Motors Corp. .....
Hercules Supply Co. .....
Hercules Tool Co. .....
Heydrick Mapping Co. 175
Hill, Hubbell & Co. 32
Hills-McCanna Co. .....
Hinderliter Tool Co. .....
Hope Engineering Co. .....
Hough, Charles N., Mfg. Co. .....
Hughes Tool Co. 52
Humble Oil & Refining Co. .....
Hussmann Hotel .....
Hyatt Roller Bearing Co. .....

I

Imperial Belting Co. .....
Imperial Refineries .....
Imperial Royalties Co. .....
Independent Oil & Gas Co. .....
Industrial Brownhoist Corp. .....
Ingersoll-Rand Co. .....
International Cement Corp. .....
International Composition Co., Inc. .....
International Creosoting & Construction Co. .....
International Derrick & Equip. Co. .....
International Harvester Co. of America..
International Minerals & Metals Corp. .
International Nickel Co., Inc., The .....
International Petroleum Exposition ....
International Supply Co. .....

J

Jackson Co., Byron ..... Back Cover
Jackson Engineering Corp. .....
Jarecki Mfg. Co. .....
Jefferson Union Co. .....
Johns-Manville Corp. .....
Jones & Laughlin Steel Corp. 14
Jones, The S. M., Co. .....

K

Kaw Steel Construction Co. .....
Kellogg, M. W., Co., The 165
Kelly, John Eoghan .....
Kelly Map Co. .....
Kennedye-Plumb Corp. .....
Kennedy Valve Mfg. Co., The 163
Kentucky Wagon Mfg. Co., Inc. .....
Kerotes Mfg. Co. .....
Key Boiler Equipment Co. .....
Kirk-Morrow Iron Works, The .....
Kohler Co. .....
Koppers Co., The .....
K-W Ignition Corp., The .....

L

Landis Machine Co. .....
Larkin Co .....
Layne & Bowler Co. 154
Leader Iron Works 160
Lees-Bradner Co. .....
Leschen, A., & Sons, Rope Co. .....
Lientz & Co., B. P. .....
Lincoln Electric Co. 156
Linde Air Products Co. .....
Link Belt Co. .....
Longyear, E. J., Co. .....
Lorraine Corp., The 163
Lucey Products Corp. .....
Ludlow Valve Mfg. Corp. 145
Ludlum Steel Co. 24-A, 24-B
Lufkin Fdy. & Machine Co., The .....
Lufkin Rule Co. .....
Lummus, The Walter E., Co. .....
Lunkenheimer Co. .....

Mc

McAlear Mfg. Co., The .....
McCord Radiator & Mfg. Co. 5
McEverlast, Inc. .....
McEvoy, J. H., & Co. .....
McGregor Working Barrel Co. .....
McIntosh & Seymour Corp. .....
McKee, Arthur G., & Co. .....
McNabb Oil & Refining Co. .....

M

MacClatchie Mfg. Co. .....
Macwhyte Co. .....
Madison-Kipp Corp. .....
Magnolia Petroleum Co. .....
Mahoney Ryan Aircraft Corp., The ....
Maloney Tank Mfg. Co. 147
Manzel Bros. Co. .....
Marion Machine Fdy. & Supply Co. .....
Marley Co., The .....
Marsh Gauge Pole Co. .....
Martin-Loomis Corp. 35
Mason Regulator Co. .....
Medart Co., The .....
Melcher, A. F. .....
Merco Nordstrom Valve Co. .....
Metric Metal Works .....
Midwest Piping & Supply Co., Inc. .....
Milam Building, The .....
Miller Combination Bailer & Pump Co. ..147
Miller Improved Gas Engine Co. .....
Miller, Max B., & Co., Inc. .....
Mine Safety Appliance Co. .....
Missouri Portland Cement Co. .....
Moon Mfg. Co., The .....
Moore, Lee C., & Co., Inc. 90
Munn & Co. 175
Muskogee Iron Works .....
Myers, F. E., & Bro. Co. 166

N

National Lead Co. 73
National Lumber Manufacturers Ass'n ..
National Petroleum Engineering Co. 165
National Supply Co. 61
National Tank Co. .....
National Tool & Metals, Inc 19
National Transit Pump & Machine Co... 64
National Tube Co. .....
Natural Gas Equipment Co. .....
Naylor Pipe Co. .....
Neilan, Schumacher & Co. .....
Norris Bros., Inc. .....
North American Car Corp. .....
Northern Pump Co. .....
Novo Engine Co. .....
Nye Tool & Machine Works .....

O

Oakite Products Co. 152
O'Brien Steel Construction Co. .....
Ohio Injector Co., The .....
Oil and Gas Journal, The 167
Oil Conservation Engineering Co., The ..
Oil Countries Specialties Mfg. Co., The
Oil Equipment & Engineering Exposition
Oil Insurance Association .....
Oil Well Improvements Co. .....
Oil Well Supply Co. 74-75
Oklahoma Gas & Elec.ric Co. .....
Oxweld Acetylene Co. 2

P

Page & Hill Co. 30
Page Steel & Wire Co. .....
Parkersburg Machine Co. .....
Parkersburg Rig & Reel Co. 79
Parmenter & Selby .....
Parsons Co., The .....
Patrick, R. S. .....
Patterson-Ballagh Corp. 26
Pattin Brothers Co. .....
Penberthy Injector Co. 49
Petroleum Engineering Corp. .....
Petroleum Iron Works Co. .....
Pforzheimer, Carl H., & Co. .....
Phillips Petroleum Co. 159
Pittsburgh Equitable Meter Co. 100
Pittsburgh Screw & Bolt Corp. .....
Pittsburgh Steel Products Co. .....
Pittsburgh Valve, Fdy. & Construction Co. .....
Podbielniak, W. J. 165
Pomona Pump Co. 102
Powell, William, Co. .....
Power Piping Co. 161
Prescott Co., The 81
Pressed Steel Car Co. 145
Prest-O-Lite Co., Inc., The .....
Protective Metals, Inc. .....
Pure Oil Co. 28
Pyle National Co. .....
Pyrene Mfg. Co. .....

Q

Quaker City Rubber Co. .....

R

Raigorodsky, P. M. 165
Rau Construction Co. .....
Reading Iron Co. .....
Reading Steel Casting Co., Inc. .....
Reece Wooden Sole Shoe Co., Inc. 166
Regan Forge & Engineering Co. .....
Reid, Joseph, Gas Engine Co. 18
Republic Iron & Steel Co. .....
Republic Rubber Co., The .....
Republic Supply Co. 51
Resistcor Engineering Corp. .....
Riter-Conley Co. .....
Robinson Orifice Fittings Co. .....
Ross-Meehan Foundries Co. 165
Russell Mfg. Co., The .....
Ryan Aircraft Co. .....
Ryerson, Joseph T., & Sons, The 165

S

Safety Gas Main Stopper Co. 175
Selden Co., The .....
Shaffer Oil & Refining Co. .....
Shaffer Tool Works .....
Shaw, S. F. 175
Sheehan Pipe Line Construction Co. 69
Shell Petroleum Corp. .....
Sinclair Refining Co. 135
Sivyer Steel Casting Co. .....
Skelly Oil Co. .....
Skinner, M. B., Co. 153
Smith, A. O., Corp. 10-11
Smith Engineering Co. .....
Smith, H. C., Mfg. Co., Inc. 87
Smith Separator Co. .....
Smooth-On Mfg. Co. .....
South Chester Tube Co. .....
Southern Cornice Works 162
Southwestern Engineering Corp 43
Southwest Welding & Mfg. Co. .....
Spang & Co. .....
Spang, Chalfant & Co., Inc. 22
Springfield Wagon & Trailer Co. .....
Standard Power Equipment Corp. .....
Standard Steel Works .....
Star Drilling Machine Co. .....
Steiner, George 175
Sterling, Stop-Watch Co., The .....
Stockham Pipe & Fittings Co. .....
Stoody Co. .....
Stork Engineering Co. .....
Strom Steel Ball Co. .....
Strong Carlisle & Hammond Co., The ..
Struthers-Wells Co. .....
Sullivan Co., The .....
Sullivan Machinery Co. 160
Sun Shipbuilding & Drydock Co. 7
Sureshot Torpedo Co. .....
Swartwout Co., The .....

T

Taubman Supply Corp. .....
Taylor Instrument Companies .....
Templeton, Kenly & Co., Ltd. .....
Terry Steam Turbine Co., The 101
Texas Creosoting Co. .....
Texas Power & Light Co. .....
..... Inside Front Cover
Thermoid Rubber Co. 8
Thompson, Wilford A. .....
Timken Roller Bearing Co. ..Front Cover-4
Titusville Forge Co. 164
Titusville Iron Works Co., The .....
Toledo Pipe Threading Mch. Co., The .. 97
Trackson Co. .....
Trimont Mfg. Co. .....
Truman-Smith Const. Co. .....
Trumble Gas Trap Co. .....
Tube Turns, Inc. .....
Tulsa Boiler & Machinery Co. .....
Tulsa Chamber of Commerce .....
Tulsa Sheet Metal Co. .....
Twin Disc Clutch Co. .....

U

Union Carbide & Carbon Corp. 3
Union Mfg. Co. .....
Union Wire Rope Corp. .....
United Tractors & Equip. Corp .....
Universal Oil Products Co. 47

V

Vallez Rotary Filters Co. 157
Vez Company, The 93
Victaulic Co. of America .....
Victor Balata & Textile Belting Co. ....
Victor Welding Equipment Co. .....
Vogt, Henry, Machine Co. 27

W

Wagner Electric Corp. .....
Wailes, Dove-Hermiston Corp. 161
Walworth Co. 1
Warren Petroleum Co. .....
Washburne, Chester W. 175
Waukesha Motor Co. .....
Wertzberger Derrick Co. .....
Western Gas Construction Co., The ....
Westinghouse Electric & Mfg. Co., The ..
West Texas Utilities Co. 31
Whiting, P. H., & Co., Inc. .....
Wickwire Spencer Steel Co. .....
Wico Electric Co. .....
Wiemann-Kammerer-Wright, Inc. .....
Wilgus Mfg. Co., The .....
Williamette Ersted Co. .....
Williams, J. H., & Co. .....
Williamsport Wire Rope Co. .....
Williams Tool Corp. .....
Wilson-Snyder Mfg. Corp. 96
Wilson Welder & Metal Co., Inc. .....
Winkler-Koch Engineering Co., The 3
W-K-M Co., Inc. .....
Wood Shovel & Tool Co., The .....
Worthington Pump & Machinery Corp.
Wright Mfg. Co. .....
Wyatt Metal & Boiler Works .....

Y

Yale & Towne Mg. Co. .....
Young Engine Corp. .....

Z

Zero Hour Torpedo Co., The .....
Zwetsch, Heinzelmann & Co. .....

The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 28. NO. 23. TULSA, OKLAHOMA, OCTOBER 24, 1929

Copyright, 1929, by The Petroleum Publishing Co

TABLE OF CONTENTS

SPECIAL ARTICLES

California Cut Aid to Conservation 35
By Andrew M. Rowley
Those unwilling to co-operate reported as desirous of joining movement. No price changes elsewhere expected.

California Crude Cut Fifty Per Cent 37
By L. P. Stockman
Economic penalty for unrestrained overproduction.

Injunction Proceedings Halted by Appeals Court 37
By L. P. Stockman

No Trouble to Prorate in Oklahoma 38
By James McIntyre
State's order will be carried out with industry's consent.

Problems Facing Bradford Operators 38
By James McIntyre
Pure flood water and greater oil recovery through saturation.

Changes in Pennsylvania Situation 39
By C. O. Willson
Refiners find gasoline most difficult to sell.

Russian Engineers Devise Rotary Bit 40
By L. G. E. Bignell
Turbine principle employed with drill pipe stationary.

Code Not Perfect, But Deserves Trial 41
By E. B. Reeser
Tells Four State Jobbers it is effort to remedy evil situation.

Jobbers Discuss One-Stop Stations 41
By W. T. Ziegenhain
Four State meeting considers aviation market and code.

Chemistry Reveals Important Facts 42
By Dr. H. C. Allen
Large field in oil and gas, supplementing geology.

Aviation Making Big Strides 42
By L. G. E. Bignell

Paying the Penalty (Editorial) 44

Recovering Sludge From Plumbite 46
By Ralph E. Goode
Liquid chlorine employed in T-C process at refinery.

Doherty Offers $120,000 to Back His View 48

Pipe Line Construction News 68

Bureau of Mines Statistics for 1928 70

Field Problems and Their Solution 84
Edited By Thomas F. Smiley

Alabama's Possibilities in Oil and Gas 122

Country's Largest Potential Producer 138

Need Gas Rates on Sound Principles 142
By Thomas R. Weymouth

FIELD OPERATIONS

Late Fields 48

East Central Texas 48
By L. E. Bredberg

Oklahoma 50
By W. A. Spinney

Kansas 52
By W. A. Spinney

Rocky Mountain Area 53
By Tolbert R. Ingram

Canada 54
By Victor Lauriston

Southwest Texas 55
By B. D. Stevenson

Gulf Coast 56
By Neil Williams

Michigan 58
By Special Correspondent

Zwolle District, Louisiana 58
By D. H. Bancroft

North Louisiana-Arkansas 59
By D. H. Bancroft

California 60
By L. P. Stockman

West Texas 65-162
By L. E. Bredberg

North Texas and Panhandle 66-162
By L. E. Bredberg

Kentucky-Tennessee 76
By Whit

Central West 76
By Whit

Eastern Fields 78
By D. S. Wakenight

REFINING AND MARKETING

Oklahoma Natural Gasoline Advances 36
By C. O. Willson
Continued buying absorbs current output and reduces storage. Expect export gasoline buying in refinery market. Few price changes.

Technical Questions Answered 80
By Dr. C. K. Francis

Practical Suggestions in Refining 123
By W. T. Ziegenhain

Chicago Gasoline Situation Unchanged 126
By J. B. Waldo

Better Feeling in Eastern Market 127
By A. E. Mockler

Brief Items for Petroleum Refiners 129

Natural Gasoline Manufacture 130

Refinery and Crude Prices 134

Tank Wagon Quotations 134

Of Interest to Sales Departments 146

Tank Wagon Prices in September 153

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 33

Men Known in Oildom and Personals 83

Equipment and Supplies 86

Natural Gas Developments 91

Plan to Store Manufactured Gas in Sands 91
By S. W. Meals

Classified Want Advertisements 124-125

Oil Securities Market 136-137

Detailed Operations for September 168

Crude Petroleum Statistics 176

BE A REGULAR READER

The Oil and Gas Journal Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining

.....Equipment .....Marketing

Name.....

Address .....

City.....

$6 a Year

$3 6 Months

Refinery Section Starts on Page 123

California Cut Aid to Conservation

Highest daily average estimated total production in 1928, week ended Dec. 29, 2,585,844 bbls. Lowest in 1928, May 19, 2,238,241 bbls.

Those Unwilling to Co-operate Reported Desirous of Joining Movement. No Changes Elsewhere Expected

By Andrew M. Rowley

Highest daily average estimated light oil production in 1928, week ended Dec. 29, 2,158,134 bbls. Lowest in 1928, Mar. 3, 1,927,713 bbls.

The crude oil conservation movement in the United States was placed on a much more solid foundation this week through the action of the major purchasers in California in announcing material reductions in prices in the flush fields where a number of individual operators and smaller companies had shown no disposition to co-operate in the effort to hold production more nearly to market requirements. Although the industry as a whole for a long time has expected a readjustment of the crude oil price schedule in California as a result of the overproduction there and the burden placed upon purchasers by reason of the huge piling up of stocks of crude and refined oils, those opposed to conservation failed to heed the warning. A remarkable feature is the purchasers held off as long as they did before announcing reductions in price.

Advices from California are to the effect those who were reluctant to co-operate and join in the conservation movement now are willing to go along, providing the prices of crude are brought up to about what they were last week, before the reductions were announced. Everyone has realized the situation in California was a menace to the entire industry. But it required somewhat drastic action to convince a number of smaller operators it would be to their best interests to co-operate in the movement designed to stabilize the industry and prevent uneconomic production with its attendant high costs for storage which the public eventually would pay.

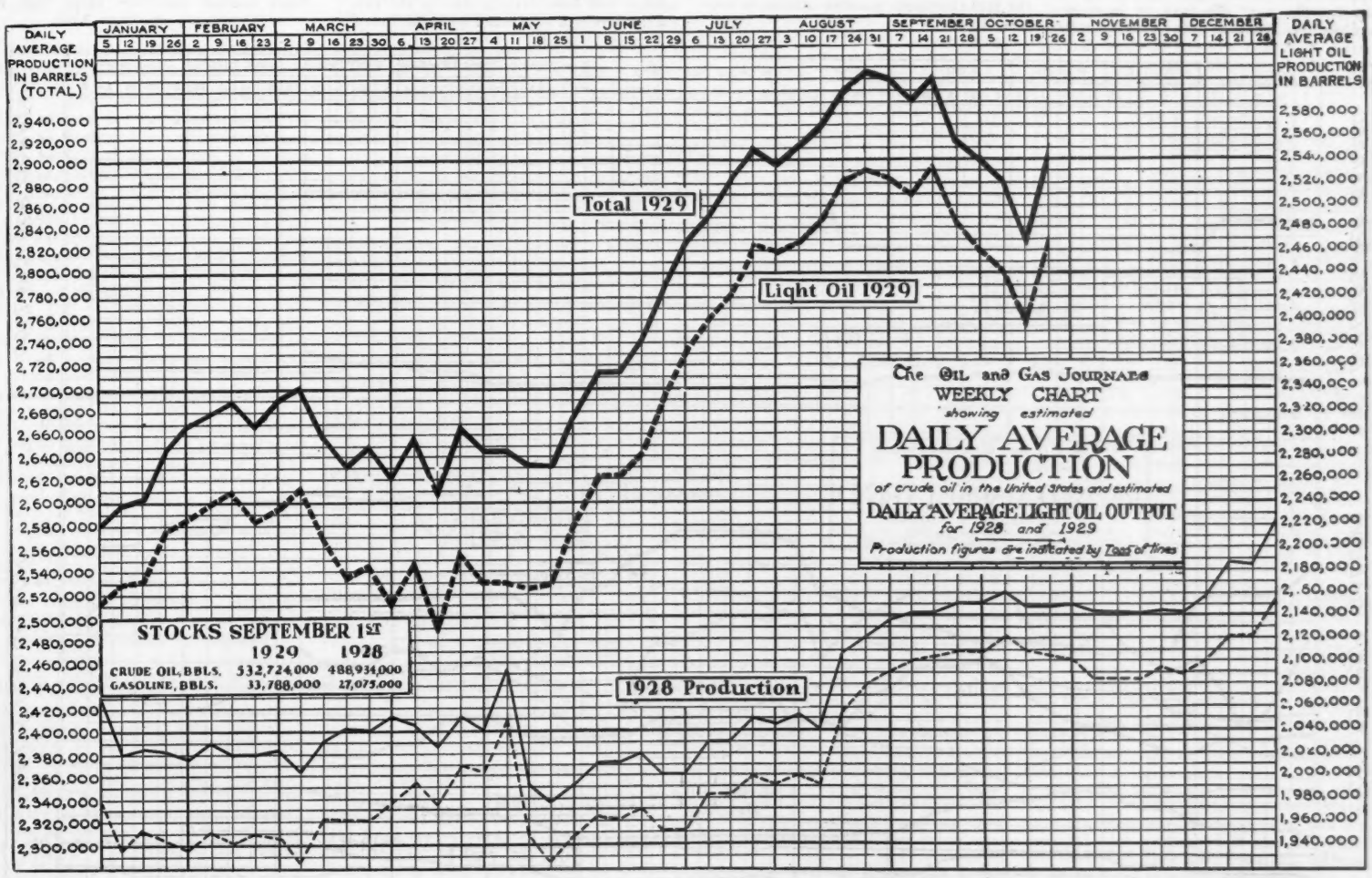
The action in California has strengthened the conservation movement in the Mid-Continent. Some operators in the Mid-Continent who have gone along with the different proration agreements somewhat reluctantly are now willing to co-operate wholeheartedly as all desire to avoid a period of prices below cost of production. As long as the present conservation plans in the Mid-Continent area are effective there is little possibility of any change in the crude oil price structure. Keeping production approximately to requirements eliminates any necessity for reductions in price.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended October 19 and a comparison with the previous week follows:

	Oct. 19		Oct. 12	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	75,530	.....	985	.....
St. Louis-Pearson	57,080	.....	59,640	.....
Seminole	267,915	.....	280,210	.....
Northern Miscellaneous	250,765	.....	252,340	.....
Southern Fields	57,020	.....	57,120	.....
Total Oklahoma	708,310	.....	650,295	.....
West Texas—				
Hendricks	118,481	.....	120,034	.....
Yates	139,459	.....	133,125	.....
Remainder	115,065	.....	113,760	.....
Total West Texas	373,005	.....	366,919	.....
North Louisiana	33,680	5,760	35,485	5,715
Arkansas	19,085	45,730	19,040	45,400
North Central Texas	149,519	.....	149,430	.....
Texas Panhandle	106,140	.....	106,763	.....
East Central Texas	19,588	.....	18,294	.....
Kansas	111,415	.....	112,070	.....
Total Mid-Continent Area	1,520,742	51,490	1,458,296	51,115
Gulf Coast	.....	182,238	.....	166,139
Southwest Texas	.....	64,634	.....	67,273
Eastern	135,000	.....	134,000	.....
Rocky Mountain Area	74,651	.....	76,161	.....
California—				
Santa Fe Springs	273,500	.....	268,000	.....
Long Beach	168,000	.....	170,000	.....
Huntington Beach	42,000	.....	43,500	.....
Elwood	30,000	.....	24,000	.....
Ventura Avenue	62,000	.....	62,500	.....
Seal Beach	38,000	.....	41,000	.....
Remainder of State	126,000	141,000	124,000	145,000
Total California	739,500	141,000	733,000	145,000
Total United States	2,469,893	439,362	2,401,457	429,527
Grand Total		2,909,255		2,830,984

→ Total Increase, 78,271 Bbls.; Light Oil Increase, 68,436 Bbls. ←



Oklahoma Natural Gasoline Advances

Continued Buying Absorbs Current Output and Reduces Storage. Expect Export Gasoline Buying in Refinery Market. Few Price Changes

By C. O. Willson

With the gasoline export situation, the main subject of discussion in the trade, the Oklahoma (Group 3) refined market over the past week for the most part, marked time so far as prices were concerned.

Natural gasolines were the only exception to this general condition. The heavy buying of this product explained in these columns last week coming from eastern and middle western refiners continued so that not only has the current output been absorbed but manufacturers have also been able to reduce their storage substantially.

Among the buyers of the past 10 days were the Standard Oil Co. of New Jersey, Standard Oil Co. of Indiana, Atlantic Refining Co., Standard Oil Co. of Ohio, Beacon Oil Co., Standard Oil Co. of Kentucky, Continental Oil Co., Cities Service Refining Co., and a number of smaller companies in the East and Middle West. This buying was in addition to the usual business coming from Mid-Continent and Gulf Coast refiners which over the past two years have absorbed practically all of the Mid-Continent output.

This buying by eastern and middle western refiners which has totaled around 900 cars has brought a shortage of tank cars. Most of these orders were for immediate shipment and the long eastern hauls have reduced the available tank cars for two or three of the larger manufacturers to the point where they are not in position to take on additional business for prompt shipment.

Export Buying

The heavy buying of natural gasoline, which has placed the Mid-Continent manufacturers in a strong statistical position for the next 30 days at least regardless of whether the exceptionally heavy buying continues and the belief that the refinery situation is to be given relief through purchases by exporters has brought a better feeling in the gasoline market generally. The only disturbing feature was the long expected reduction in California crude oil prices, a development which is generally interpreted as having no immediate importance so far as the Mid-Continent gasoline market is concerned.

The much discussed gasoline export situation is believed to have been ironed out last week with some buying of the high gravity grades in prospect before the end of the month.

The matter of export buying has been a sore point among many Oklahoma and other Mid-Continent refiners for several weeks. It is contended that the weak market has been largely due to the fact that the buyers associated with the Petroleum Export Association have not purchased the quantity of gasoline which was supposed to have been allocated to this territory early in the year. This gasoline, estimated at from 40,000,000 to 50,000,000 gallons, has accumulated in the tanks of several refiners and represents the surplus which has been an important factor in the weak domestic market.

The so-called "independent" buying which has come into the export market from time to time is a further development of this muddled situation which has become unsatisfactory both to buyers and sellers.

In behalf of the buyers it is pointed out that it has been impossible to perfect all features of the export association within the few months that it has been in operation. The competition of cheap sources of supply from California and foreign refineries where a rail rate such as exists in Mid-Continent shipments is not a factor has tended to retard the smooth operation of the export plan according to those who have taken part in the discussions of the past week.

Improvement Expected

Should the expected export buying develop it will not only improve the high gravity market but should also be reflected in the domestic grades which have shown a consistent downward price trend since early summer. Most of the refiners are in excellent shape so far as stocks are concerned and with the other operators relieved of distress storage material through export purchases, the domestic market will be in position to reflect the improvement with a narrowing in the wide price differentials which now prevail.

Most market observers agree that a

(Continued on Page 143)

REFINED MARKET BAROMETER

A slightly better feeling in regard to the gasoline market at refineries was reported in several areas during the past week. The only important exception to this situation was in California where the lower crude oil prices in the flush fields have created a feeling of uncertainty in the domestic gasoline market. No price changes are expected unless the lower crude oil prices continue for several weeks. East of California heavy buying of natural gasoline is interpreted as a favorable factor in the motor fuel market generally. There were no important price changes in refinery gasolines over the week. Kerosene prices were steady with improvement noted in the eastern demand. Fuel oil and gas oil were strong at both interior and coastal points. Reports from all areas indicate a heavy demand for furnace oils and retail prices have been advanced at some points. Bright stocks are the strongest product of the lubricating oil list with higher prices in effect on some grades of steam refined stocks in the East. Wax prices firm.

Mid-Continent—Fuel oil, gas oil and distillates were generally strong and prices higher whenever changes were made. Natural gasolines continued in strong demand at higher price levels. Refinery gasoline prices showed little change with a slow movement. Kerosene prices firm. Lubricating oils unchanged. No change in wax.

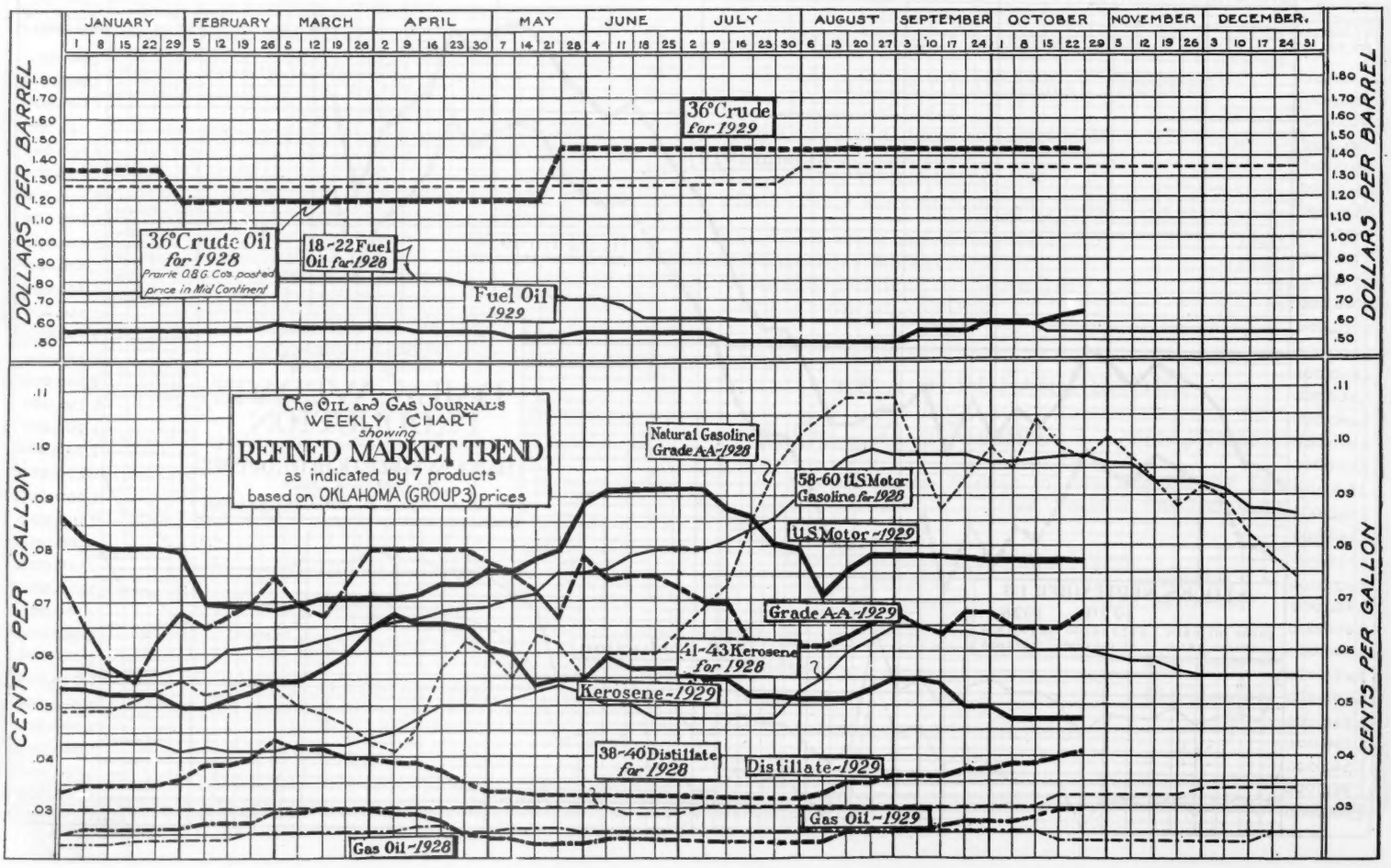
East Coast—Better feeling in regard to refinery gasoline and higher prices predicted by some. Kerosene active. Good movement of Diesel oil and gas oil. Wax firm. Satisfactory movement of bunker oil.

Chicago—Fair spot demand for gasoline with no important changes in price. Furnace oil demand light due to warm weather. Fuel oil and gas oil prices firm. Kerosene easy. Bright stocks active.

Pennsylvania—No important price changes. Gasoline slow with strong demand for steam refined cylinder stocks and bright stocks.

Gulf Coast—Better demand for neutral oils. Gasoline weak.

California—No reductions in prices as result of lower crude oil prices in flush fields. Domestic gasoline expected to weaken if low crude oil prices continue.



California Crude Cut Fifty Per Cent

Economic Penalty for Continued Overproduction of Oil and Waste of Gas. Court Orders Test of Conservation Law

By L. P. Stockman

LOS ANGELES, Calif., Oct. 21.—True to expectations and confirming predictions of the writer for the past several weeks, the Standard Oil Co. of California has slashed crude oil prices in the Santa Fe Springs, Long Beach and Seal Beach Fields, the price reductions averaging approximately 50 per cent. This downward revision in prices has been expected for some time and therefore did not come as a surprise. As a matter of fact economic conditions justified a cut several months ago, but this has been held in abeyance in the hope that the gas conservation law would reduce the disparity between supply and demand and thus permit buyers of crude oil to maintain existing quotations.

The situation in California reached the critical stage about a month ago and has been gradually getting worse because of inadequate storage facilities. The seriousness of the situation prompted L. P. St. Clair, executive vice president of the Union Oil Co., to issue a warning several days ago in which he stated it is imperative that production of crude oil in California be reduced to current demands or else Oklahoma and Texas could not be expected to continue with their efforts to conserve oil. In prognosticating future conditions he said if the injunction proceedings looking to enforcement of gas conservation in California were not carried out within a few days one-third of the California oil industry would be on the way to receivership, as there would be a drastic cut in the price of crude oil.

Price Cut

The Standard's new price schedule became effective Monday, October 21, and the cut of this company was subsequently met by other large buyers. The new prices offered by the Standard in the Santa Fe Springs Field are 40 cents per barrel for oil of 21 degrees up to and including 28 degrees. The old price ran from 89 cents per barrel up to $1.10 for similar gravities. For 29 gravity oil and above the new price quotes a flat figure of 60 cents. Previous prices for these grades ranged from $1.15 to $1.65 per barrel. In the Long Beach Field 40 cents a barrel will be paid for oil of 19 gravity and all intermediate grades up to and including 24 degrees. This formerly brought from 80 cents to $1.01 per barrel. Sixty cents per barrel will be paid for oil averaging 25 degrees and above as compared with previous quotations ranging from $1.05 per barrel to $1.35. In the Seal Beach Field 40 cents per barrel will be paid for 19 gravity oil and other intermediate grades up to and including 24 degrees compared with the old graduated price which ranged from 80 cents per barrel to $1.01. For 25 gravity oil and above the Standard will pay 60 cents per barrel, the previous price running from $1.05 per barrel to $1.35.

In announcing the new prices to be paid for crude oil, President K. R. Kingsbury stated:

President Kingsbury's Statement

"Standard Oil Co. of California offers the above reduced prices as a result of a long continued and unrestrained overproduction of crude oil in the flush fields named. Since January 1, 1929, there has been added to storage over 40,000,000 bbls. of oil and the present overproduction is 200,000 bbls. per day. In addition there is being blown into the air in California at the present time 800,000,000 feet of natural gas daily. This is more than twice as much natural gas as is now being used for industrial and domestic purposes in the State. In terms of fuel oil this quantity of gas is equal to 132,000 bbls. per day.

"The last legislature of the State of California passed an act prohibiting the waste of natural gas. On June 26 the authorities charged with the enforcement of this law notified the oil industry the law would be put into effect at midnight August 31. The enforcement of this law would not only prevent the waste of natural gas but result in a material curtailment in the production of crude oil."

Continuing, President Kingsbury stated that:

"Anticipating the law would be enforced, this company refrained from reducing its offered price for crude oil in the fields mentioned, although it has been evident for several months that economic conditions justified a drastic cut in the price. It is the established policy of the company currently to offer producers such prices for crude oil as conditions warrant. Present conditions do not justify the offering of a price which will encourage continued overproduction. Since September 1, 1929, there has been continued opposition to the State conservation law on the part of those controlling a small percentage of the production in the fields affected which opposition continues to delay the operation of the law, thereby prolonging the indefensible waste of great quantities of natural gas and a resulting overproduction of crude oil in the fields in question. Within the past few days the Corporation Commission of the State of Oklahoma with the unanimous consent of the operators and royalty owners has curtailed the production in the flush and semiflush fields of Oklahoma so as to balance supply and demand. Similar cooperative effort has in the past successfully controlled and is now controlling overproduction in Texas. Co-operative effort in the State of California to control flush pools has failed notwithstanding the fact that in one of our flush fields it had the support of 85 per cent of the production."

All indications point to a long drawn out fight before the gas conservation law can be enforced so far as Santa Fe Springs is concerned as those familiar with court procedure expect the present hearing on injunction proceedings to require at least 30 days and probably longer. The only hope of an early enforcement of the gas law lies in the probable issuance of a temporary restraining order during the course of the hearing to determine the constitutionality of the legislation in question. It might not be amiss to mention in this connection that Superior Court Judge William Hazlett announced from the bench last week that he would consider this procedure proper if subsequent developments presaged extensive litigation and intermediate findings were favorable to the State's contention.

Independent operators went into a huddle with major companies last week in an effort to arrive at some method of artificially reducing the waste of natural gas at Santa Fe Springs, but these meetings broke up in a row because of the disposition of natural gas. The sponsors of this movement had hoped that a consented decree could be secured from the superior court and thus terminate present proceedings. Another meeting will be held within the next day or two but there does not seem much chance of consummating a definite arrangement as it is predicated on the gas-oil ratio which many companies do not think will solve the difficulties now encountered.

Hearing on the injunction proceedings instituted by the state officials against Santa Fe Springs operators to force compliance with the gas conservation law got under way Monday morning, October 14, amid acrimonious debate, but the entire first week was spent by defense attorneys arguing for a postponement. The fireworks started as soon as James Bennett, representing the state department of natural resources, had recited the State's complaint and prayer for a temporary restraining order pending decision on the request for a permanent injunction. Several independent operators immediately requested a continuance and sought to invalidate the present proceedings because of the failure to include in the citation the landowners of property involved, mortgagees, bondholders and trustees holding title to securities. After several days of debate the court disallowed the petition for a postponement and overruled the defendant's petition to make property owners and other possible interested parties codefendants.

Arguments Heard

The attempt to cite landowners and trustees was made for the specific purpose of delaying operation of the gas law as it is quite obvious it would be a very difficult matter to locate all of the parties in question. The defense claimed that lessors were equally as guilty of any possible violation as lessees and might ultimately be successful in suits for breach of contract against operators even though the lessee might be forced to pinch in production in compliance with a court order.

Attorney-General U. S. Webb of California argued that this presumption was erroneous and contended that lessees would be automatically protected by the injunction or temporary restraining order if issued by the Superior Court. In overruling the motion of defense attorneys Judge Hazlett reserved the right to summon later all interested parties and instructed attorneys to file the name and addresses of all landowners and other interested parties with the court for reference.

Upon rendering the decision refusing a delay the court instructed attorneys to proceeding immediately with that phase of the suit dealing with the constitutionality of the gas conservation law. After the validity of the act has been determined arguments will begin on the demurrers filed in answer to the State's complaint.

Poll of Companies

A poll of defendants shows that the Ambassador Petroleum, Bandini Petroleum, Bell View Oil Syndicate, Commodore Oil Co., Wilshire Oil Co. and Wilshire Annex Oil Co. challenge the constitutionality of the gas conservation law. This check, on the other hand, reveals that the Independent Oil Producers agency, Union Oil Co., Standard Oil Co., Associated Oil Co., Sunset Pacific Oil Co., St. Helens Petroleum, General Petroleum, Elliott Consolidated, Richfield Oil Co., Universal Consolidated, Superior Oil Co. and The Texas Company do not challenge the constitutionality of the act in question. Several of these operators were given permission by the court to support the State actively in its attempt to validate the gas conservation law and they will also be assisted and have the moral support of the Federal Government. The Ring Petroleum, Twin Bell Syndicate, Star Petroleum, and Second Twin Bell Syndicate were still undecided at a late hour as to what position they will assume with respect to the legality of the measure.

Those challenging the constitutionality of the gas conservation law contend among other things that oil and gas is the private property of landowners and that the State has no equity and therefore cannot initiate regulatory measures by legislation. They also deny that the act has any relation to public safety and hold that the gas law takes private property without proper adequate compensation.

The defendants also deny that gas is a natural resource belonging to the State and therefore the commonwealth has no control. An attempt will also be made to show that gas had been put to the maximum use when it has brought oil to

(Continued on Page 139)

INJUNCTION PROCEEDINGS HALTED BY DISTRICT COURT OF APPEALS

By L. P. Stockman

LOS ANGELES, Calif., Oct. 22.—The injunction suit of the State of California against Santa Fe Springs operators to force compliance with the gas conservation law was summarily stopped Monday afternoon by a writ of prohibition signed by the District Court of Appeals and, in compliance with this order of the higher tribunal, Judge William Hazlett adjourned hearing on the complaint in the Superior Court until October 31.

The order of prohibition stays all proceedings in the Superior Court until the District Court of Appeals rules on the question of making lessors, mortgagees and trustees of securities co-defendants in the State's action to prevent waste. Hearing on the writ will be held in the Court of Appeals starting Monday, October 28, and it is quite likely that this department may also pass on the constitutionality of the legislation in question as the two phases of the situation are very closely related. Judge Hazlett has already overruled a petition similar to that now pending before the District Court of Appeals to bring in additional defendants.

The probable effect of the drastic price cuts at Santa Fe Springs, Long Beach and Seal Beach on the gasoline market has resulted in considerable speculation and many are of the opinion that a downward revision may be expected in refined oil prices in the near future. This is just what the major companies do not want because of its possible adverse affect on both local and export business. The fact remains, however, that several independent refiners are now in good position with cheap crude oil to undersell standardized quotations and at the same time make a bid for additional gallonage. One new refinery has recently been finished at Santa Fe Springs and while this plant will have only a relatively small capacity officials of the company have been looking around for a source of crude supply.

The writ of injunction issued by the District Court of Appeals automatically delays any further action on the injunction proceedings and prolongs the period of surplus gas production. It has been the consensus of opinion that the Standard would probably put the price of crude oil back on the original schedule as soon as some definite reduction had been effected in the flush fields involved and while this may yet be done the period of readjustment is still a long ways away.

One of the most interesting phases of the litigation now under way in the Superior Court at Los Angeles is the fact that similar action in the Ventura courts may be finished before the local action is concluded.

No Trouble to Prorate in Oklahoma

State's Order Will Be Carried Out With Consent of Operators Affected. Umpire's Organization Complete

By James McIntyre

Umpire Ray M. Collins, whom the Oklahoma Corporation Commission placed in charge of the proration of flush oil fields in Oklahoma from October 16 until the close of the year, has organized his field forces and they have been functioning in the areas which were to be subject to curtailment since the day after the order was issued.

It will be recalled that Oklahoma City is not subject to proration until November 1 and that East Earlsboro has been under a 30-day 50 per cent proration, which will continue until November 1, when it will join in the more general proration movement.

Mr. Collins has placed the prorated fields in Seminole, Pottawatomie and Pontotoc Counties in charge of J. Ed. Flynn, headquarters at Seminole; C. A. Carney, at Wewoka and James S. Perry at Shawnee. Samuel W. Collins will represent the umpire in the Logan County area under proration. All are experienced oil men familiar with producing and pipe line operations and picked for their ability to iron out all differences that may come up in the work of prorating. All have had experience in the Seminole proration periods which began in 1927. Together with the above named district chiefs the umpire has engaged a staff of assistants all of whom have had experience in the oil business.

The field under proration is too large and too widely scattered for Collins to cover alone and get the contact necessary for a smooth administration. He will have his headquarters in Tulsa but will visit the different fields frequently. Messrs. Flynn, Carney, Perry and Sam Collins are the contact men or field umpires, easily available to the production and pipe line forces in the field, and with authority to make all but major decisions on points not clear to the operating field men of the oil companies.

Effect of California Cut

The drastic action taken by California purchasers of crude oil in cutting the price of crude approximately 50 per cent in certain flush fields, has had the effect of stiffening the backbone of the proration movement in Oklahoma and Kansas. Mid-Continent oil men, seeing 39 gravity California oil cut from $1.65 per barrel to 60 cents per barrel and 28 gravity oil from $1.10 per barrel to 40 cents per barrel view with alarm what may happen in their own territory if production is not kept to market requirements.

There never was such a cut in crude since the early days of the industry and certainly never since the days that crude oil began to be a real factor in industry.

Another feature of the California price cut that alarms Mid-Continent oil men is that it was applied only to specified flush fields. This method of slowing up production in dangerous flush areas has repeatedly been advocated in the Mid-Continent but never with any results. When Mid-Continent crude was cut or increased the new prices were applied to all fields. Thus California establishes another precedent.

The general feeling among oil men in Tulsa is that if the action of the Standard Oil Co. of California has the desired results, and contrary operators in the big Pacific Coastal fields decide it will be better to join in the very desirable conservation movement than to sell their oil for a song, the market price on the west coast will resume normalcy. At the same time they realize that what has been done in one state might be done in another and those among them who have been averse to curtailing their crude oil output have had a change of heart since Saturday.

Reports Good Progress

Umpire Collins reported on Monday that good progress is being made in prorating the fields named by the Corporation Commission. It will be several days before he can make a report showing real results, as it takes some time to get so large a movement in full effect.

In the Logan County fields he found that the companies operating in the Wilcox, or deep sand area, had already been prorating. The Shell Petroleum Corp., which is the major operator in that territory, has been keeping as high as 700 pounds back pressure on some of its big wells in the Marshall Pool and has been maintaining an 8 per cent curtailment right along. The company has consented to a 20 per cent cut in addition to its 8 per cent self imposed curtailment. The Logan County wells will not be subjected to a 24-hour wide open gauge in order to arrive at a potential, but will be prorated on the decline curve of the previous week, generally accepted in that field. Every well is equipped with a choke and no difficulty in maintaining the allowed production is anticipated.

The situation in the East Earlsboro Pool where a 50 per cent curtailment was ordered grows better with the passing of the days. In the first week of curtailment production was off about 47 per cent and in the second week the cut was slightly deeper. In the third week the cut reached very close to 50 per cent. Throughout the three weeks production on some days was under 50 per cent of the potential, on other days it was over. For the whole three weeks the average is close to the desired mark.

Oklahoma City Plan

Oklahoma City operators met in Tulsa on Monday to formulate a plan of proration in November in that area and the session lasted most of the day and was notable for the good feeling that prevailed and the spirit of helpfulness that every man carried into the meeting. Thomas B. Slick presented a general program of proration, which was adopted with some modifications.

The producing wells in the field will be divided, according to their location, into two groups, A and B, and during November will be prorated as follows:

All wells, except those now under proration, will be allowed to flow wide open from now until November 1, excepting that on Sunday, October 27, all wells will be shut in one day.

All A wells will be opened up at 7 a.m. November 2, until November 6, and all B wells will be shut in.

All B wells will be opened up at 7 a.m. November 6, until November 10, and all A wells shut in.

Both A and B wells will be opened up at 7 a.m. November 10 to November 12.

All A wells will be opened up at 7 a.m. November 12 to November 16.

(Continued on Page 138)

Problems Facing Bradford Operators

Pure Flood Water and Greater Oil Recovery Through Complete Water Saturation of Oil Sands, Big Factors

By James McIntyre

One of the interesting features of the development of the Bradford Field in McKean County, Pennsylvania, and Cattaraugus County, New York, by the water flood is the use of filtration plants to treat the water used for flooding purposes for the removal of that part of its content which militates against successful flooding.

The water used in flooding the oil sand consists of ground, or meteoric water, held in the surface soil and outcropping rocks. For years no thought was given to its chemical content or what effect it would have on the oil sand. It was simply looked upon as fresh water and used without analyzing its content and without thought that one water might vary from another in its chemical makeup.

When the aid of the geologist was called in and science began to replace haphazard methods of operating under the flooding system, among the studies first made was that of water analysis, not only of flood water but connate water, or natural salt water, from the Bradford sand.

Paul D. Torrey, geologist, in a paper entitled "Oil-Field Waters of the Bradford Pool," presented in February, 1928, before the New York meeting of the American Institute of Mining and Metallurgical Engineers, said that while Bradford had long been represented as a dry sand field, as a matter of fact there had been little information available on the oil-field waters of northern Pennsylvania until the Northwestern Oil Producers Association and the United States Geological Survey co-operated in conducting a preliminary study of the character of the flood waters, the relationship of changes in concentration of the salts dissolved in these waters to ultimate flood-oil production and the original association of oil and water in the Bradford Field.

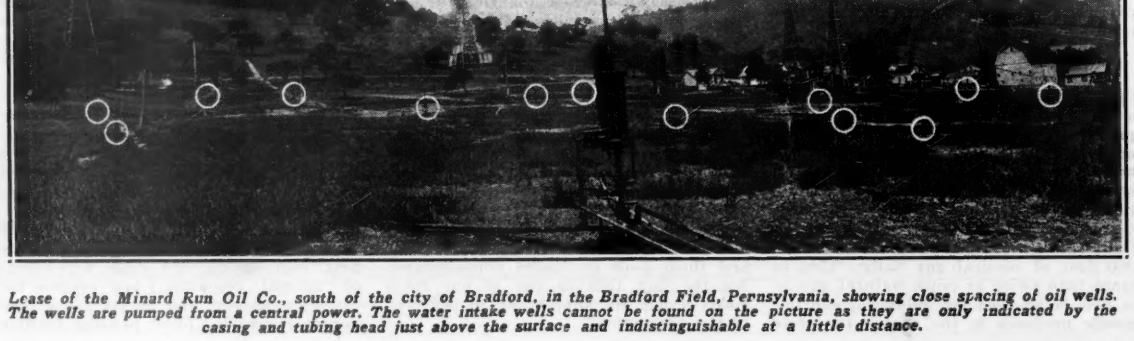
Character of Structure

"Practically all of the oil produced in the Bradford Field comes from one horizon, generally known as the Bradford sand," said Torrey. "The accumulation of oil in the Bradford Pool had been definitely controlled by a large dome with a closure of 150 feet. The productive area covers over 85,000 acres, possibly the largest continuous area of oil productive territory from one sand in the United States. On all sides of the field there is a very definite oil-salt water contact. Along the eastern edge this contact is somewhat irregular in places, but oil production appears to be partly limited here by a thinning of the sand rather than entirely by structural conditions. The dip over a greater part of the field is comparatively low and fairly uniform. Along the southern and western limits of the field oil is frequently found in the upper, and water in the lower, part of the sand. The same condition occurs in several local areas within the pool where there are small structural depressions in the sand.. . .

"Occasionally a new well located several miles from the oil-salt water contact will encounter a small amount of water in the sand. This appears to be derived from lenses of low permeability of the reservoir rock since it is soon exhausted by systematic pumping. At the present time very few natural wells produce any salt water. . . .

"Although the limits of the productive area of the pool were soon defined by drilling and the position of the edge-

(Continued on Page 105)



Lease of the Minard Run Oil Co., south of the city of Bradford, in the Bradford Field, Pennsylvania, showing close spacing of oil wells. The wells are pumped from a central power. The water intake wells cannot be found on the picture as they are only indicated by the casing and tubing head just above the surface and indistinguishable at a little distance.

Changes in Pennsylvania Situation

Refiners Find Gasoline Most Difficult Product to Sell. Heavy Demand for Motor Oils Continues. Crude Supply Adequate

By C. O. Willson

OIL CITY, Pa., Oct. 21.—The profitable disposal of gasoline is the main concern of the inland Pennsylvania refiner operating his plant with Pennsylvania grade crude oil. The continued expansion in the nationwide and foreign demand for 100 per cent Pennsylvania lubricating oils is providing a satisfactory outlet for the products which bear the major cost of plant operation but the sale of the gasoline fractions of the crude oil in competition with cheap material from other areas presents a real problem.

This viewpoint of the Pennsylvania refinery situation was obtained from representative refiners some of whose marketing operations are national in scope while others operate largely on a local basis. Few complaints outside of the gasoline market situation are heard, although the hope is expressed that the crude oil market will show less fluctuation in the future than it has in the past year.

Two Developments

From the gasoline angle the Pennsylvania refiner, including a group in West Virginia which operate exclusively with Pennsylvania grade crude oil, appears to be the victim of two developments over which he has had no control. With independent refiners in all parts of the country he has seen his independent jobber outlets sold out or merged with larger organizations which operate their own refineries. Formerly in the case of the smaller refiners they were often able to dispose of their relatively small gasoline output within a radius of 25 miles from their plants. A haul in excess of 100 miles was exceptional. The active expansion campaigns of some of the larger refining organizations has changed this situation. Most of the desirable jobber accounts have either been purchased outright or long-time contracts have been made in which the larger refiner furnishes all the gasoline sold by the jobber.

The other handicap of the Pennsylvania refiner has been due to the trend toward higher antiknock ratings in motor fuels. The day of the salesman who submits the antiknock rating of his gasoline to his prospect as well as the distillation range, has arrived. This applies to both jobber and dealer accounts.

In the eastern states as far west as Ohio it has meant that the sale of gasoline made from West Texas, California and South American crude oils has been based largely on the superior quality of the product as an antiknock motor fuel. Up to two or three years ago it was customary so far as possible to cover up the origin of these gasolines coming from asphaltic and naphthenic base crude oils as they were considered in the light of substitutes for gasoline made from the paraffin base crude oils.

As is generally known this situation has been reversed, the change being especially pronounced within the past six months. Competitors of the Pennsylvania refiners have stressed the relative antiknock value of gasolines and the Pennsylvania product has lost many customers who for years had refused to consider any other product. The fact that the largest Standard refiner and marketer in Pennsylvania has been bringing West Texas crude from the East Coast by pipe line to two inland refineries has aggravated this situation.

One refiner in explaining this situation said that during the past summer his organization had expended more sales effort in the disposal of gasoline than in all the remaining plant products. Formerly this company had been able to sell its gasoline output to a few Pennsylvania and New York jobbers without difficulty.

Lowered Differentials

From the price angle this competition has meant that the Pennsylvania refiner has been forced to reduce the price advantage he formerly enjoyed. When he disposed of his gasoline output within a short distance of his plant the refiner was able to absorb all of the freight rate advantage over products coming from outside refiners. For instance, the differential between the Mid-Continent and Pennsylvania gasolines of the same grade was usually from 2½ to 3½ cents per gallon in favor of the latter. Now that they are forced to go longer distances to find outlets with much more competition from the East Coast refiners the differential has been reduced until at present it is approximately 1¼ cents. It is obvious that this narrowing of price differentials when 30 to 50 per cent of a barrel of crude oil is made into gasoline is an important factor in determining whether a plant will be operated at a loss or profit.

Solution of Problem

In solving this gasoline problem the Pennsylvania refiner has two avenues of escape. Both are now being used. He can change his manufacturing operation in order to secure a higher yield of antiknock gasoline. This can be done by increasing cracking facilities. The gasoline secured from the ordinary cracking operation is higher in antiknock value than the gasoline secured by natural distillation of the crude oil.

One large company which has a refinery in West Virginia has perfected a so-called vapor phase cracking operation which gives a gasoline which is exceptionally high in antiknock value. This product is sold as a premium grade and it is also used in blending with the ordinary grade secured in the skimming operation so that it will meet the usual antiknock rating. This method of processing is receiving the attention of other refiners and it is possible that additional installations will be made during the coming year. A co-operative plant in which refiners in a certain area would pool all their charging stock for the cracking operation has been suggested.

Special Naphthas

The other solution is in the marketing end. A few companies are reducing their gasoline yield by changing their skimming operation to secure the maximum recovery of special naphthas. This operation can be carried out so that the entire gasoline fraction of the crude oil is manufactured into special products. One company is making the lightest fractions of the gasoline into a 360 endpoint gasoline. The remainder of the gasoline fraction is sold as special naphtha.

This not only reduces the quantity of gasoline to be sold but gives a product which is higher in antiknock rating than the usual grades. It is definitely established that the higher boiling fractions of the gasoline are the least desirable in gasoline from the standpoint of knocking. By using the heavy ends in special naphthas the antiknocking properties are not only improved but a volatile motor fuel is secured for which higher prices are obtainable. Some refiners expect to give more attention to this type of operation another year reducing their gasoline yields to local requirements.

Special naphthas usually present more of a problem to the marketing department than they do to those in charge of plant operation.

To be profitable it is necessary to find an outlet for all the cuts that are manufactured. The dry cleaning, paint and solvent trade use products of different specifications and their total demand is not the same. Unless a refiner can find an outlet for all the special products this type of operation is usually not attractive. The large refiner has an advantage in this regard in that he can blend off any of the undesired cuts. The Pennsylvania grade crude oil because of its purity is desirable in the manufacture of these special products because very little chemical treatment is required.

Other Products

Aside from gasoline the Pennsylvania refinery situation over the past year has been of interest from several angles. The following table shows crude oil and refined product prices at three different periods over the past year.

Pennsylvania Prices—Crude Oil and Refined Products

	Oct.15 1929	Oct.15 1928	Apr.15 1929
Crude oil* (per bbl.)	$3.05	$3.45	$4.10
58-60 gasoline (per gal)	.085	.1125	.09
45 kerosene	.0675	.075	.0725
36-40 fuel oil	.045	.045	.0525
150-3 color neutral	.155	.215	.215
220-3 color neutral	.285	.315	.31
600 steam refined	.255	.135	.265
600 Pa. flash	.315	.19	.33
Pa. bright stock	.52	.355	.47
124-126 wax	.0325	.055	.04

*Pennsylvania grade oil in New York Transit lines.

This table reflects the rapid price changes in crude oil and most of the refinery products over the past year. A year ago the crude oil market had started a rapid advance which continued until shortly after the first of the year when a high of $4.10 was reached for the top grade. The price continued throughout the first half year and since that time prices have slumped so that now posted prices are lower than they were a year ago.

Crude Output Gains

The advance last year was due to a heavy demand for Pennsylvania lubricating oils. The higher prices brought increased production as is shown by the following table giving the estimated daily production by areas based on the government reports:

Area—	Daily prod.— Aug., 1929	Aug., 1928
New York	9,200	7,200
Ohio	12,000	13,300
Pennsylvania	33,600	27,700
West Virginia	15,400	15,900
Total	70,200	64,100

This shows an increase of about 10 per cent in total production from August to August. Since that time there has been a further increase and the present production is around 75,000 bbls. daily. Most of the increase is coming from the Bradford-Allegany area of Pennsylvania and New York. Repressuring of old wells and the drilling of new wells accounts for this increase.

This gain in production was responsible for the price decline of the past few months. Despite the favorable market for lubricating oils refiners with low priced gasoline and kerosene could not afford to pay the top prices for the crude oil and there was no ready demand for the increased crude oil output.

Some of the refiners expect additional crude price reductions through the winter months. A few of the producers, however, are refusing to sell their crude at present posted prices and this policy which has been followed in the past, is expected to prevent low prices being effective over any great length of time.

The change in the gasoline market as shown in the table has already been explained. A year ago the gasoline market was strong everywhere. Since that time there has been a steady decline and over a part of the past few months the average Pennsylvania refiner has been paying more for his crude oil delivered at his plant than he was getting for the finished gasoline.

Kerosene prices are also lower than

(Continued on Page 105)

H. L. DOHERTY OFFERS $120,000 TO BACK HIS CONSERVATION VIEW

MEMPHIS, Tenn., Oct. 21.—Urging immediate federal action for the conservation of American oil resources as a measure of national defense, Henry L. Doherty has launched a series of double-page broadsides in the Memphis newspapers addressed to the delegates attending the convention of the American Bar Association being held in Memphis.

In his opening broadside, written by Mr. Doherty on the S.S. Olympic en route to Europe and sent back from London to Memphis by special messenger, Mr. Doherty appeals to the members of the American Bar Association to immediately name an impartial tribunal of its own members to hear all sides of the question and end the bitter controversy as to the right of the Government to bring about economic operation of the oil fields by the oil companies.

He points out that since he has advocated compulsory co-operation, there have been attempts at voluntary co-operation, but that voluntary action by the oil companies can never be a sufficient factor to prevent many American oil deposits from vandalistic exploitation.

He offers to turn over to the American Bar Association $120,000 to be spent for charity if a tribunal appointed by the association does not uphold him in his contention that the Government has the constitutional power to legislate to prevent further destruction of the nation's oil resources by present methods of oil production.

Demands Decision

"What we need in the oil controversy is a decision," says Mr. Doherty. "According to the oil lawyers, neither the states nor the federal Government are clothed with adequate powers to provide for war. This is a matter of public service. Does the American Bar Association endeavor to assist in matters of important public service, and will it assist in this matter? If a definite decision is given that the federal Government has no power in this matter, I will start a campaign immediately to amend our Constitution."

Mr. Doherty points out that the oil-conservation problem has been a matter of animated and bitter controversy among men of the oil industry for years, but that, in his belief, the whole matter could have been settled long ago except for the obstacles and confusion contributed by the lawyers.

Strongly advocating, as the only method of oil conservation, the operating of the great oil pools as units or districts under governmental sanction, Mr. Doherty says:

"President Coolidge five years ago asserted that the supremacy of nations might be determined by the possession of available petroleum and petroleum products. Oil is the most important munition

(Continued on Page 141)

Russian Engineers Devise Rotary Bit

Turbine Principle Employed With Drill Pipe Remaining Stationary During Operations. Has Been Tried in Russia

By L. G. E. Bignell
Petroleum Engineering Editor

Interest in a new type of rotary drill designed by M. A. Kapelusnihoff, Russian engineer, was increased during the visit of this engineer to the International Petroleum Exposition in Tulsa recently. R. C. Beckstrom, dean of the School of Engineering of the University of Tulsa, who has gone to Russia at the invitation of the Soviet, at a meeting in Tulsa, presented a paper describing this drill.

Mr. Beckstrom took up the discussion of five charts that were prepared by the Russian engineers to show the power required to operate the modern type rotary 4-inch drill pipe in an 8-inch hole without bit, and a second chart that showed power consumption rotating a 4-inch drill pipe with a 7¾-inch bit in a 16-inch hole.

Chart No. 3 of the series showed power required when the conditions described in Chart No. 2 were changed by loading the equipment, or causing it to do actual work.

These tests were all done with a hole full of mud and gave an interesting comparison of power requirements.

The fourth chart displayed showed the drift of rotary drills of the modern type in drilling wells in Russia and the drift of the new turbo-roto type drill. The average for the modern rotary was about 15.3 degrees from vertical and for the new type drill only 3,5 degrees.

Chart No. 5 gives the results of a set of experiments carried on by the Russian engineers with their new drill and is presented below:

Table Showing Work Done With Turbo-Roto Drill

Depth		Speed	Power Input K.W.			
Metres	Feet	R.P.M.	Total	Without Bit	Useful Work	Formation
455	1,493	71	56.5	15	41.5	Hard sand
706.5	2.316	48	45.3	12	33.3	Sand
62	203	71	52.5	12	40.5	Shale
371	1.010	81	38.0	18	20.0	Sandy shale
544	1.788	83	30.0	20	10.0	Hard stone
608	1.995	81	28.0	21	7.0	Sand and boulders
699	2.295	81	35.0	23	12.0	Oil sand
446	1.463	67	29.0	15	14.0	Hard stone
348.3	1,142	70	40	14	26	Hard stone
161	528	68	48	12	36	Sandy shale
163	534	61	32	11	21	Sandy shale

Claims Made for Drill

The inventors of the turbo-roto drill claim for it that it will eliminate useless work, drive the bit by the application of hydraulic power, control weight on bit at formation by weight on drill pipe, all moving parts are at the bottom of the hole and the cost of the equipment will be considerably less than that of the modern rotary.

The actual work with this drill has been carried forward in the Baku and Grozny Fields of Russia since 1926 and in that year it is stated that 13,500 feet of hole was drilled but it is understood that nearly all of this hole was near the surface and from 24 to 36 inches in diameter.

This method of development was probably necessary for the idea was untried and it is stated that during the year 1927-1928 about 22.000 feet of hole was made with this drill and of this 22,000 feet it is estimated that about 10,000 feet was hole made with the 6-inch turbine and was 8 inches in diameter.

The 1928-29 drilling campaign anticipates the drilling of about 40,000 feet of hole of various size and it is stated that the drills are now made in the following sizes:

Four-inch turbine for a 6-inch hole.
Six-inch turbine for an 8-inch hole.
Eight-inch turbine for holes from 10 to 15 inches.
Eleven-inch turbine for holes from 16 to 18 inches.

The usual drilling practice in Russia calls for the surface hole 16 inches in diameter and in this is set 12-inch casing. The smallest hole that they can now drill with the turbine type drill is 6 inches diameter.

This experimental work has all been done in the Baku and Grozny Fields where the formations are of the Miocene Age and comparatively soft but there are a few hard shells in this sand although apparently not of great thickness or hardness.

When the drill encounters clay or gumbo formation it has been found that by increasing the pressure at the slush pumps above the normal working pressure of from 225 to 250 pounds per square inch, the speed of rotation of the bit is so increased that centrifugal force will throw the mud ball away from the bit and permit it to be again lowered to the bottom of the hole.

No Noise or Vibration

It was explained that because of the absence of noise and vibration at the derrick floor the operators are able to get the "feel" of the drill stem much as they do in cable tool practice and as they become accustomed to this feel they can judge more or less accurately about the type of formation in which they are drilling. In this way they vary the drilling speed and pressure on the bit as well as other operating conditions.

It is stated that the speed of the turbine located in the steel case at the bottom of the hole is as high as 2,500 revolutions per minute and this is stepped down by the use of gear reduction to the speeds indicated in Chart 5.

The moving parts of this turbine and the gears are lubricated from the surface and the wear due to large particles of material being picked up from the slush pit and forced into the turbine with the mud is reduced as much as possible by passing all returns from the hole over a set of screens. These screens are, however, of comparatively coarse mesh and settling in the slush pit is relied upon largely for removing the fine sand.

Fresh water is also added to keep the mud relatively thin as compared with rotary mud practice in this country, and this brings up the question about mudding the walls of the hole and it is explained that the movement of the drilling bit plasters the walls quite satisfactorily and inasmuch as the cross section of the drill pipe, usually of the 3 or 4-inch size, is much less than the diameter of the hole drilled by the bit the velocity of the mud laden fluid is very materially reduced as it leaves the bit from what it had been when pumped in to do work in passing through the turbine.

This brings up the question of carrying cutting to the surface in this low velocity return stream but the engineers did not seem to have experienced any trouble on this score, and state that this low velocity up stream does not tend to wash the walls of the hole like the high velocity stream of the modern rotary does and in this way caving under their practice is held to a minimum.

Shut Down Time

The report stated that the shut down time required for the new type turbine rotary drill had been about 2 per cent of the total drilling time, but inasmuch as the method of estimating drilling time in Russia as compared with the practice in this country is not known this statement is hard to compare with the shut down time here.

Likewise the statement that this new type of drilling showed a saving of $4 per metre over the rotary drilling practice heretofore used in Russian oil fields did not mean much to the audience for they did not have any data on former drilling practice and cost in that country. However, the engineers did finally state that they estimated that the saving is roughly 10 per cent of the cost of their method of rotary drilling with the regular type of equipment.

The practice calls for the use of the weight indicator much as it is used on rotary wells in this country and this indicated weight is used as a guide for the driller to regulate pressure on the bit and this together with the feel of the stem during drilling makes it possible for variations to be made as experience and conditions dictate.

The speed of drilling with the turbine rotary drill is no faster than that attained with the regular type rotary but the inventor stated that they made from 200 to 500 feet of hole without pull out and the ordinary type of fish tail bit is used.

The U.S.R.R. have sent two drills to this country and they were displayed in their cases at the Exposition but Mr. Kapelusnihoff stated that due to patents not having been granted in this country at this time he was not at liberty to disclose the details of the mechanism inside the steel cases. It is understood that the application for patent has been filed in Washington.

The principal parts of this system consist of the surface hoisting equipment, the drill stem that is equipped with either tool joints or collars for make up, and the steel case at the bottom of the

(Continued on Page 139)

FOURTH ANNUAL MEETING OF FOUR STATE JOBBERS HELD IN KANSAS CITY, OCTOBER 15-18

Fourth Annual Convention
Big Four State
Iowa Kansas Nebraska Missouri
Independent Oil Men
Hotel President Kansas City Oct 16 1928

Code Not Perfect But Deserves Trial

President E. B. Reeser Tells Four State Jobbers' Convention It Is Honest Effort of Oil Men to Remedy Evil Situation

By E. B. Reeser
President, American Petroleum Institute*

Ordinarily, those who produce or manufacture things are not good merchants or marketers. Many of them are past masters in the arts of production or manufacture. They can and do employ most effectively the most scientific and economic methods in manufacturing operations and in the management of men and machinery. Marketing is primary and production secondary. I repeat that we produce to consume, not consume to produce. You may be able to save money by performing some huge quantity manufacturing operation at incredibly low cost. What will it profit you or anyone else if, by so doing, you contribute to a state of overproduction which breaks the general market and thus causes you to lose all or more than you have saved? Is it not a perfectly useless operation for one to perform?

In the oil business we have made marvelous strides in production technique and in refining practice. Here enormous sums of money have been made and saved merely to be wasted as a result of distributive confusion, destructive competition, and unorganized marketing procedure. I believe that the most of our marketing evils may be traced directly first, to permitting our manufacturing operations to dominate our position, and, secondly, having overproduced our product, to permitting unchecked the use of what I may describe as double-barreled, double-distilled, supersalesmanship methods to try and get rid of the surplus product. Nobody profits, everybody loses.

The guiding principle of every marketing operation is an ethical one. That sales practice which is most ethical, that is, that which is best for all concerned, is the one which will bring success in the largest and most enduring sense. Let us be frank with each other and admit that under the stress and strain of competition we have not maintained the highest standards and that we have in many instances abandoned all pretense of pursuing sound and businesslike methods. I do not like to make such a comparison but it is true, nevertheless, that if you will analyze our marketing methods you will find that most of the unethical and many of the unsound marketing practices that have crept into petroleum marketing are adaptations of practices used by the breweries in their mad scramble to dispense the beer of a particular brewer.

The complete text of the new code you have before you in the printed pamphlet, dated August 2, 1929, issued by the Institute. The purpose of this code is to enumerate for you certain unethical and unlawful practices and to set up for the guidance of all who are engaged in the business certain definite standards of sound practice which all may follow.

If those units engaged in an industry are going to have a fair and equal chance to get business and obtain a fair return on their operations, there should, indeed there must be, substantial uniformity in the practices employed by all refiners and marketers competing with each other for the business. So far as it goes, the national code has that for its objective and it should have its chance to prove it.

Since every one competing for business is forced to adopt or meet the rules of conduct of his competitor, it naturally follows that for a national code to be effective and of real value it must be uniform in its application to all areas, it must be accepted and adhered to in actual operation by all those who are engaged in competition. Because it becomes the essential to success, a bad practice must inevitably lower the standard of all competitors. No isolated man or company is powerful enough to stem the tide of prevalent custom and those men whose ethical conceptions are most stunted exercise an influence entirely out of proportion to their importance as business men.

To illustrate, twenty oil marketers may be in competition in a given marketing area. Nineteen may wish earnestly to conduct their business operations on high ethical and along sound business lines which would result in a fair profit. One competitor refuses. Thus the standard of all is instantly lowered. One of the most common complaints we have heard in the oil business is that men or companies have been forced to conform to methods which they knew were wrong and despised but could neither stop nor change because of the attitude of competitors.

Here we now have for the first time an overwhelmingly large majority of competitors, with the approval of the Federal Trade Commission, agreeing respecting certain marketing methods they believe are right and sound and which they wish to follow. They are methods which are designed to accomplish something for the benefit of all. But this overwhelming majority of oil men and companies will be powerless to raise their own standards or improve their business practice if any important few refuse to adopt the new rules of the game and insist upon the old bull-in-the-chink-shop methods. The code in no way curtails or restricts competition. It merely specifies the manner in which the competition shall take place and it would be a business tragedy of the first magnitude if the code should fail to become one hundred per cent effective.

The question is whether the best or the worst in the industry shall set the fashion. No oil refiner or marketer can be neutral about this code. Either it is going to be accepted and followed, or it is not. Without the intelligent co-operation of the refiners and the support of the marketers we cannot hope to adjust our marketing practices to the best possible form of organization. Speaking for myself, I could not look the stockholders and patrons of my company squarely in the face and admit to them that I would not support the co-operative effort embodied in this code and I imagine the same will be true of every refiner and marketer in this room. Let us all as a matter of good business judgment and as the good sportsmen all oil men are, accept and conform to this code.

Let us bear in mind that the new code of practices for marketing refined petroleum products is not the American Petroleum Institute's code nor it is the Federal Trade Commission's code. It is the code of the petroleum industry and every one in the business ought to notify the Federal Trade Commission of the acceptance of its rules and then solemnly vow that he will not break faith with his competitors but that acceptance means one hundred and ten per cent adherence to the letter and spirit of the code without mental or other reservations. If the code effort meets with the signal success it deserves it forecasts an increasing solidarity among oil men and oil companies in every constructive direction and the sacrifice, if any, that any company, large or small, may make in conforming wholeheartedly and unreservedly to its provisions will prove to have been a real investment that will pay dividends manyfold and many-kind.

You have asked me to talk about the National Code of Practices for Marketing Refined Petroleum Products approved by the Federal Trade Commission on July 25, 1929. Let us first review briefly the successive stages of its development.

At the December, 1927, meeting of the board of directors of the American Petroleum Institute a committee was appointed to investigate and report upon the desirability and feasibility of a proposal to make a general survey of petroleum marketing practices throughout the United States. The committee recommended that the Institute either make the survey or organize and promote an energetic effort to develop and introduce

(Continued on Page 106)

*Before Big Four State Jobbers' Convention at Kansas City, Mo.

Jobbers Discuss One Stop Stations

Four State Meeting Also Considers Jobbers' Position in Relation to Aviation and the Code of Ethics in Marketing

By W. T. Ziegenbain

KANSAS CITY, Mo., Oct. 17.—Frank discussion of the code of ethics marked the annual meeting of the Four State Jobbers at Kansas City on October 15 to 17 as the most progressive step ever taken to clear the marketing problems in the Mid-Western States. The statement of E. J. Bullock, vice president of the Standard Oil Co. of Indiana, that his company was one of the first to sign the code, after a careful analysis of it, and that the company will follow it to the letter without reservations, accomplished much to cement the independent jobbers into a common favorable view toward the code.

E. B. Reeser, president of the American Petroleum Institute and president of the Barnsdall Oil Corp., delivered an address (published on this page) in which the history of the code was outlined. There was little to add to Mr. Reeser's remarks and those points of the code which were not clear to the jobbers were later interpreted or analyzed by Emory D. Hadlick, counsellor for the North West Petroleum Association, in an open discussion. The question of rights under the AAA agreement of the Standard Oil Co. of Indiana with respect to the code, was brought up for discussion. Mr. Hadlick answered by saying the interpretation committee for Illinois had ruled such agreements did not violate the code. He said a company, willing to assume the provision of the AAA agreement, would be at liberty to do so without violating the code in its present form. Some questions remained unanswered and in many cases Mr. Hadlick asked they be referred to the respective state interpreting committees but in all cases, the spirit prompting these questions was one of eagerness to learn the full text of the code and not a desire to learn how far one might go and still be just within the line.

Indiana Pledges Support

Amos Ball, general manager of the Standard Oil Co. of Indiana, covered this well when he said no code could be made sufficiently complete to answer all questions and still be brief enough to be read and understood. "Unless the spirit of the code is held foremost, its full benefits will not be derived. For these reasons, the code at present is not a finished work," he said. Analyzing the code more in detail he further said: "The first part of the code contains seven provisions which are nothing more than simply stated business laws which we are obliged to accept and obey. They had to be printed, though, so the average oil man would realize their existence. There can be no question on any of these points. In the second group of provisions, the code merely outlines certain things which we may ethically do and specifies other things that are not considered good practices. We are not compelled to live up to any of the latter provisions of the code if we do not so choose, but it is through this fact that the makers of the code hope to develop a confidence among competitors. We soon find out that the other fellow isn't so bad after we have a chance to discuss our common problems. This code opens the door to us to get together and, if it does no more than this, it will have accomplished a great deal. The spirit of the code has been shown here. A few years ago, I would not have been invited nor permitted to attend a convention of you independent jobbers. I have gained a great deal from this one and through an exchange of ideas such as we are permitted to make here we should be able to place the marketing of petroleum products on a basis which will more nearly pay a reasonable return on the money we have invested in it."

Mr. Ball concluded his talk by saying all of the division managers and key men of the marketing division of the Standard Oil Co. of Indiana had been called into conferences in which each paragraph of the code had been carefully gone over and his company welcomed the receipt of advices from any part of their marketing territory in which any question regarding the marketing practices of that company with respect to the code might originate.

With the executives of the largest marketing organization in the states pledging support of the code in this manner and with the announcement that every major refiner and jobber had signed the code, more than 1,500 names in all, apparently all that remained, following the meeting, was for the few jobbers who had not signed, to line up with the rest to make the application of the code 100 per cent operative.

One-Stop Stations

At the same time these jobbers were presented with the code of ethics as the means of stabilizing marketing practices they were given two new disturbing problems. One of these is the question of the merits of one-stop service stations, and the other, the jobbers' position in supplying aviation oils to the great business being developed. To get into either

(Continued on Page 107)

Chemistry Reveals Important Facts

Has Large Field of Usefulness in Discovery, Development and Production of Oil and Gas, Supplementing Geological Work

By Dr. H. C. Allen
Professor of Chemistry, University of Kansas

While there is no doubt at the present time regarding the value of geological advice in connection with oil and gas location, development and production, it would seem that there might also be a large field of usefulness for the chemist along these same lines. The writer has been working on this supposition for the past 18 years and the following observations and suggestions are based on a large amount of data accumulated from a study of the Mid-Continent Field during this time.

In order to understand why chemical data may be valuable and how they may be used in solving some of the numerous problems with which the industry is continually faced it may be necessary to change our general conception of underground conditions in oil and gas fields.

Probably the usual conception of an oil or gas pool as it exists at the present time is that of a stationary body, commonly situated in an anticline or on the slopes and waiting for the drill to penetrate the overlying strata and allow the oil or gas to be brought to the surface. It may be thought of as having occupied its present position, with no material change, for a long time and if any thought is given to the chemical composition it is considered as fairly uniform throughout a given pool in most cases, though different pools may be quite varied chemically.

Static Conception Unsupported

This static conception is not warranted in any of the numerous pools examined and is probably not true of any pool in any field. Gases or oils from different wells in the same pool invariably show well defined differences in composition unless there is some easily explained cause for certain wells being similar.

The more correct conception is that of the oil and gas being formed by the decomposition of various organisms over a considerable area and depth underground and then starting on the journey toward the surface of the earth. This decomposition period no doubt extended over a long period of time and may not be complete in all cases even at the present time.

As the oil and gas traveled toward the surface of the earth they came in contact with some strata that were more impervious than others and offered more resistance to their passage, which would cause a tendency to accumulate under such strata. Really impermeable strata are nonexistent so far as oil and gas are concerned, the term being relative only, and while there would be an accumulation beneath some of these strata considerable oil and much gas would pass through such strata and accumulate beneath other more impermeable strata nearer the surface.

If the impermeable strata were tilted the tendency would be for most of the oil and gas to follow up the incline through underlying strata until they came to a tilt in the opposite direction where they would accumulate in considerable quantities in an anticline.

Various Media Passed Through

The larger portion of the oil or gas in any pool has arrived at its present position by traveling in vertical and horizontal directions through various media. The lighter and more fluid portions especially are continually escaping through even the most impervious of these strata while the passage of the heavier and more viscous portions is slow and much less pronounced. In some such way not only much of the gas has been separated from the oil, but this same type of separation will account to a large extent for the differences in composition of the oils and gases found in different pools and also for the variations of those from the same pool or sand.

There is no doubt that variations in composition are also caused by different kinds of organisms at hand during the formation period and also by the different conditions under which the formation has taken place, but the changes in composition in any particular oil or gas during its passage through the various strata will always be in well defined directions regardless of origin and formation conditions.

We should not picture an oil or gas pool as being in a state of stable equilibrium even at the present time, but must consider that the oil or gas has been and probably in many cases still is in motion, and while these movements at the present time are no doubt slight they are or have been enough to make it possible to measure the differences in chemical composition incident to such movements.

Differences Found in Same Sand

Any experienced oil or gas man knows that there are differences in the oil or gas coming from the same sand in at least some cases and is able to tell the difference between a wet gas and a dry gas. He will also agree that the wet gas is in closer touch with or nearer the oil than the dry gas. The chemist can tell these same things, with this important difference, that while the oil man can tell only in a general way regarding the wetness or dryness of a gas, the chemist can tell within very narrow limits and in a quantitative way the comparative wetness or dryness of gases. The same general observation that the wetter the gas the nearer the oil is just as true in this case as when there are wide variations in composition.

In connection with changes in composition that take place in oils and gases of the Mid-Continent Field during their vertical and horizontal travels through the various strata, it should be understood that probably very few if any actual chemical changes occur in any of the individual constituents making up such oils and gases. The aggregate (oil and gas) is made up of a series of hydrocarbons ranging in properties from the light and very fluid gas methane to the heavy and viscous paraffin and asphaltic portions with numerous intermediate chemical compounds possessing intermediate properties.

The differences in composition found in the oils or gases from any pool will be directly due to the fact that the various chemical constituents making up the oils uents will travel through the different proportions as they have traveled vertically and horizontally through the various strata in coming to the location where found. Thus what might be termed the aggregate composition of the oils or gases has been changed during the migration and it is this type of change in which we are interested.

The following are some of the factors that determine the nature and extent of such changes.

Light Constituents Move Fastest

Fluidity of different components is probably a poor term to use, but in general the lighter and more fluid constituents will travel through the different media more readily than the heavier and more viscous, thus causing a larger concentration of such constituents in the strata more distant while the concentration of the heavier and more viscous constituents will be increased in the portion remaining behind or traveling less distance. This sort of separation will occur regardless of the nature of the strata through which the aggregate travels and regardless of just what constituents may be present in the oil or gas. This is somewhat similar to diffusion and there may also be something of a filtering action under some circumstances.

Whatever the terms absorption and adsorption may mean, they are undoubtedly factors in changes taking place and their action is rather complicated. No doubt some of the chemical constituents are held up more than others and not always in the same proportions as indicated under fluidity. However, the constituents affected will be removed and held so that the changes noted will be in addition to any such effects. These factors probably play a part in the differences noted in gases or oils subjected to vertical or horizontal filtration. Fineness of sands or media and also their chemical character will produce different effects along these lines.

Little Chemical Action

Since the Mid-Continent oils and gases are made up very largely of the paraffin series of hydrocarbons, which are quite stable to chemical reactions, there is probably very little chemical action in the correct meaning of the term, taking place after they have traveled a short distance from their source.

Solubility in waters, brines, etc., is no doubt of considerable importance in the passage of oil or gas from one impermeable strata to another, but probably has very little effect on composition in passing horizontally through a single sand of any type. The radically different changes in composition noticed in gases traveling vertically as compared to horizontally is no doubt considerably dependent on differences in solubility.

Capillarity of the different media through which the aggregate travels will no doubt play an important part and also the effect will be much more pronounced on the oil than on the gas

Work has been done along this line on oils by different men and the fact es-

(Continued on Page 154)

CHEMIST LIKELY TO HAVE LARGER PLACE

Chemistry, which has performed an important role in the oil and gas industry, should fill an even larger place, in the opinion of Dr. H. C. Allen, writer of the accompanying article. Doctor Allen lays down some general principles and then points out methods of using them in actual practice. He believes that if these principles are accepted, chemistry can give information of high value along new lines, collaborating more closely with geology.

Doctor Allen went to the University of Kansas as a student in 1904 and with the exception of two or three years, has been there ever since. He received the degree of M.A. from the University of Kansas and Ph.D. from Cornell University. He is professor of chemistry, in charge of analytical and industrial chemistry and state chemical research. His principal interest has been in oil and gas for the last 18 years, and he is a recognized authority in that field.

AVIATION IS MAKING BIG STRIDES AMONG MEN IN PETROLEUM INDUSTRY

By L. G. E. Bignell

The oil man seems to have taken to the air as a means of travel much more quickly than the executives and workers in other industries, for Tulsa airports, now five in number, rank among the first in the country in landings made during this year. No less an authority on flying than Will Rogers has said that "Tulsa has the best municipal airport in the country" and he has visited practically all of them and should know whereof he speaks.

It was not so many years ago that the petroleum industry changed its mode of travel from horse and mule-drawn vehicles to automobiles and many stories are still being told about the use of the auto in going from Tulsa to the various pools opened in 1914 and 1915. As the Cushing Pool was being very actively developed at that time many operators made it a practice to drive to and from Tulsa in their machines.

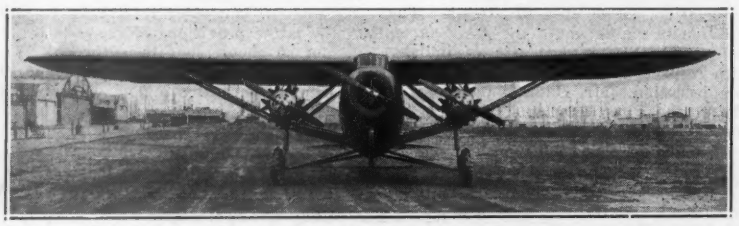
But this was not an hour-and-a-half trip then as it is now and the usual thing was to start out of Tulsa early in the week and spend such time as needed in the pool and then return during the latter part of the week, for the one round trip to and from the Cushing Pool was about all the excitement the ordinary man wanted in a week's time.

Now the trip to Cushing by airplane is made in about 30 minutes and operators think nothing of visiting in one day four or five major pools in the state that are scattered over a territory covered by several hours of flying time. Many fields are inspected from the air without landing for the main details such as wells pumping, general appearance of the lease and buildings and such minor matters can be easily judged by a flight over the oil field.

Exposition Business

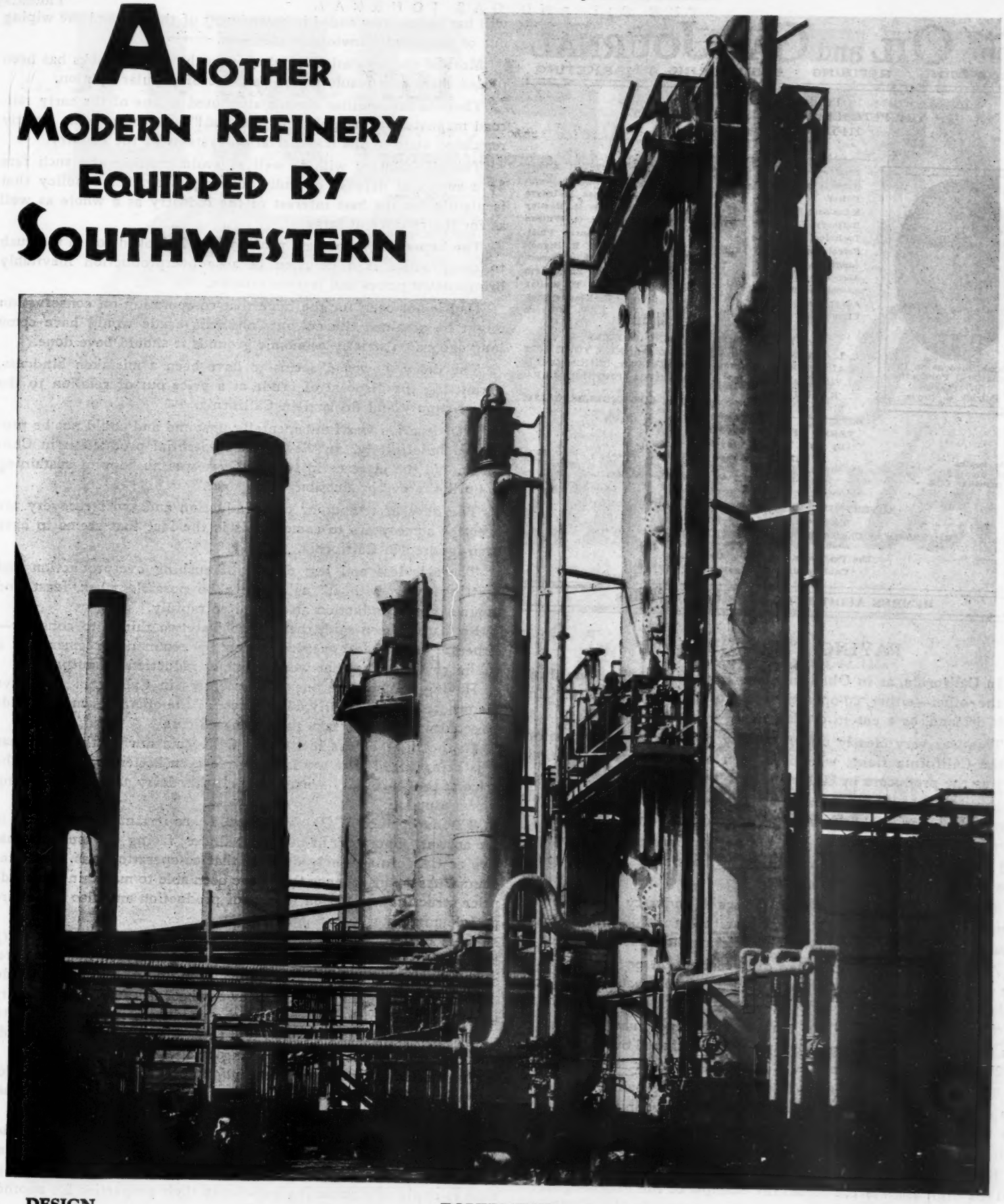
It is therefore not at all surprising to have one prominent manufacturer of airplanes state that he had actually received more visitors and secured more interest and prospects in his week's exhibition at the Petroleum Exposition in Tulsa this year than he had received for a like

(Continued on Page 105)



Emsco Challenger airplane with the Long Beach oil field in background.

ANOTHER MODERN REFINERY EQUIPPED BY SOUTHWESTERN



DESIGN EQUIPMENT CONSTRUCTION

OIL REFINERIES AND GASOLINE PLANTS

SOUTHWESTERN ENGINEERING CORPORATION

606 SOUTH HILL STREET
LOS ANGELES, CALIF.

605 MAYO BUILDING
TULSA, OKLAHOMA

117 LIBERTY ST. • NEW YORK CITY • ROOM 1606

ROOM 1217 MAGNOLIA BLDG., DALLAS, TEXAS

TRANSPORTATION BLDG.
MONTREAL, CANADA

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle.

President - - - - - - - - - - - - Frank T. Lauinger
General Manager - - - - - - - - - John M. Egan
Editor - - - - - - - - - - - - James McIntyre
Managing Editor - - - - - - - - Andrew M. Rowley
Refinery Editor - - - - - - - - - C. O. Willson
Technical Editor - - - - - - Charles K. Francis, Ph.D.
Petroleum Engineering Editor - - - - L. G. E. Bignell
Associate Editor - - - - - - - - W. T. Anderson
Associate Editor - - - - - - - - W. T. Ziegenhain
Associate Editor - - - - - - - - Thomas F. Smiley
Advertising Manager - - - - - - E. Klappenbach
Circulation Manager - - - - - - - J. P. Mulkern

DISTRICT ADVERTISING OFFICES
C. L. CAIN - - - - - 101 Park Ave., NEW YORK CITY
L. AUSTIN DE VORE, 1328 Peoples Gas Bldg., CHICAGO, ILL.
ALVIN E. LOEFFLER, State Theater Bldg., PITTSBURGH, PA.
C. R. JOHNSON - - - - - - - - - - - - - - - - - -
- - 730 Petroleum Securities Bldg., LOS ANGELES, CALIF.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies - - - - - - - - $ .15
Three months - - - - - - - - $1.00
Six months - - - - - - - - - $1.00
One year (in United States) - - - $6.00
One year (in Canada) - - - - - $7.00
One year (foreign countries) - - - $7.00

ADVERTISING RATES ON APPLICATION
Telephones: 6291-6292-6293
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

PAYING THE PENALTY

In California, as in Oklahoma and Texas, it was just one thing or the other—either co-operation in keeping production in line with demand, or a cut in crude prices.

This was very clearly understood by the bulk of the operators in the California fields who have been most anxious to do their part as the producers in Oklahoma and Texas have done theirs.

But an inconsiderable minority has held out on the old-time theory that they could do what they liked with their own.

They have learned nothing from the experiences of Oklahoma and Texas or from the demonstration in those states that co-operation is the one sensible solution.

The deplorable feature is that the whole industry in California, if not throughout the world, must bear the brunt of the economic penalty for overproduction which their attitude has provoked.

Anyone with any knowledge of the situation or the events of the past few years in the industry must have seen that existing conditions in California could not continue.

The addition of 40,000,000 barrels to storage since the first of the year was sufficient warning while the continued overproduction of 200,000 barrels daily demanded immediate action.

The further fact that 800,000,000 feet of gas is being blown into the air every day, or twice as much as the total quantity of natural gas used for industrial and domestic purpose in the State, was certain to arouse popular indignation and lead to remedial legislation.

But not even the resulting enactment of the gas regulation law had the slightest effect; nor had the example of the Federal government in bringing about a conservation program in the Kettleman Hills district.

The arguments in the State's injunction proceedings were of course limited to legal technicalities but the wider issues of public interest and popular opinion cannot be safely overlooked.

Even from the standpoint of selfish interest the non-co-operating operators in California should pause to consider the peril of disregarding a policy which has been approved by the Federal and State Governments and endorsed by a vast bulk of popular understanding.

Reliance upon the letter of the law in opposition to the public will has before now ended in amendment of the law and the wiping out of supposedly inviolable interests.

Most of the regulative legislation on the statute books has been placed there as a result of the defiance of popular opinion.

There is the familiar remark attributed to one of the early railroad magnates: "The public be damned!" and the present strictly regulated state of the transportation systems of the country.

The oil industry will do well to avoid inviting any such fate by a supposed defense of individual rights against a policy that is plainly for the best interest of the industry as a whole as well as for the country at large.

The hoped for immediate profit which is looked for in the rush to overproduce is a delusion because overproduction inevitably brings down prices and lessens returns.

Had it not been for the hope that co-operation on conservation might be obtained the cut in California crude would have come long ago, as on strictly economic grounds it should have done.

The delay, however, seems to have been a mistaken kindness, permitting the disposal of crude at a price out of relation to the actual supply and demand in California.

The situation was fundamentally unsound and could not be prolonged indefinitely. In view of the potential production in California and the increase in storage there was no hope of sustaining it until the overproduction "blew over."

The days of temporary overproduction and swift recovery are over for some years to come. This is the fact that seems to have been ignored in California.

There is less and less chance of rushing overproduction and "getting away with it" as used to be possible when feast and famine in oil production alternated so rapidly.

So, as has been said, there were just two things to consider—either restriction of overproduction by common agreement, or a cut in crude prices that would compel reduction of output.

Having refused the one the dissenters in California now have the other; and, unhappily, all the rest of the operators in the fields affected will have to take the same medicine.

In the light of the history of California during the past year it is being asked if it would not have been better to have cut the price at the start and have avoided all this delay and accompanying overproduction.

The experience of Oklahoma and Texas in similar conditions is the answer. Operators in these two States, facing the same alternative as California, wisely decided that co-operation was the better course. As a consequence they have been able to maintain the crude price structure in relation to cost of production and also the entire petroleum market.

It is needless to ask what would be the state of the industry today if Oklahoma and Texas operators had persisted in unrestrained production as California has been doing in its flush fields.

The operators in California owe what measure of prosperity they have had to the restraint of the producers in the Mid-Continent and West Texas who have kept their production within bounds and sustained the market at a living rate.

At the same time the present plight of California is an object lesson to Oklahoma and Texas and elsewhere of the certain consequences of flying in the face of economic law.

How thoroughly this is understood in Oklahoma was shown by the readiness of Oklahoma City operators to take a 100 per cent proration of their production for a month and their further willingness to apply new prorating policies to their properties for another period.

Overproduction means not alone the depressing of prices but entails needless expense for storage, and in the light of the present surplus and the enormous potential production in sight there is no assurance when that storage can be drawn out.

The California conservation issue is likely to be before the courts for some time. The only hope is that, having seen the alternative, the opponents of conservation may now decide it is wiser to profit by the successful example of Oklahoma, Texas and Kansas and get together on a practical program for the general benefit.

DRESSER

Couplings Dominate

Another Record Breaker

The Mississippi River Fuel Corporation's 22" Natural Gas Pipe Line from Louisiana to St. Louis in capacity and length exceeds all previous installations.

Of course Dresser Couplings were used exclusively, which assures uninterrupted service and minimum maintenance expense.

S.R. DRESSER MFG. COMPANY
BRADFORD, PENNA., U.S.A.

Recovering Litharge from Sludge

Liquid Chlorine Employed in T-C Process in Handling Plumbite at American Refinery. Operation Economical

By Ralph E. Goode
American Refining Properties

Recently the attention of refiners has been called to a new process for the recovery of litharge (PbO) from spent plumbite (doctor) sludge. The process is essentially one of oxidation and takes advantage of the vigorous oxidizing action of chlorine.

The principal products reclaimed from the spent plumbite sludge are:

1. Litharge.
2. Elemental sulphur which is very finely divided.
3. Caustic soda solution.
4. Light oil.

Approximately 95 per cent of the lead compounds in the spent sludge are recovered in the forms of lead oxide (PbO), generally 85 per cent to 90 per cent, and the balance as lead chloride ($PbCl_2$), both of which are readily soluble in caustic soda solution to make doctor.

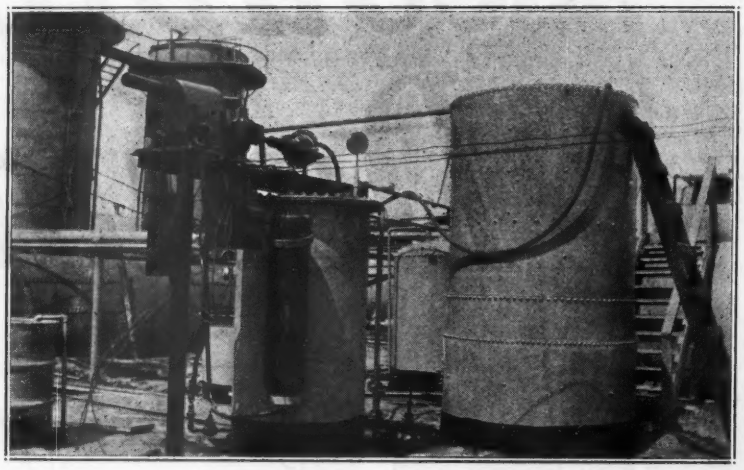
The F-C process has been in commercial operation at the refinery of the American Refining Properties at Wichita Falls, Tex., for some time. All of the spent doctor sludge from all of the stocks treated in this refinery has been reclaimed over and over again at a very small cost with complete success. The recovered lead exists in the form of litharge, of a very finely divided nature and consequently it is very soluble in caustic soda solution. It has also been found that it is not necessary to have heating coils within the doctor mixing tanks, as the recovered litharge goes into solution very readily. The sulphur is recovered as elemental sulphur which is very soluble in the treating mixture that is used to break out the lead mercaptides resulting from the doctor treatment. The doctor solution containing recovered sulphur gives a quicker break, the average treating time in most instances having been reduced approximately one-half.

In connection with the subject of litharge recovery from spent doctor sludge, it is well known that sodium plumbite (Na_2PbO_2) treating of sour or sulphur-bearing oils has been practiced for years by most petroleum refiners. Doctor treating of petroleum distillates has proved to be one of the most efficient and simplest processes employed in the sweetening and finishing of gasolines for the market. There are few oils that cannot be sweetened at a low cost with doctor solution. The simplicity in handling the reagent and the fact that it does not require highly skilled technical supervision in its application is very much in its favor in comparison with other reagents used for this purpose.

For the removal of malodorous compounds and for bringing the color of gasoline up and keeping the color stable, doctor solution, as it is known to the treaters, is without a peer. It may be used in almost any strength, depending of course on the sourness of the product being treated. Doctor solution, as it is usually made, is composed of the following quantities of chemicals in solution: Approximately 2 parts of sodium hydroxide (NaOH), 16 parts of water (H_2O), 1 part of litharge (PbO). The chemicals are placed within a suitable mixing tank, where they are blown with air for a few minutes for the purpose of more readily dissolving the litharge. The contents of the mixing tank are then allowed to settle to precipitate any excess litharge, after which the clear doctor solution is ready for use. Usually in treating very sour distillates or peculiar sulphur bearing oils, a small quantity of flowers of sulphur or stick sulphur is added to complete the sweetening process. Very frequently when using doctor solution for treating off-color products, the color may be brought up three to six points. This is especially true of gasoline made from high pressure stills and cracking plants.

Lead Recovery Process

With the advent of a lead recovery process that is economical, quick in its action and extremely easy to control, it has been found to be very profitable to reclaim the spent doctor sludge instead of pumping it to the sewer, as was formerly done. In the majority of refineries the use of lead sulphide for treating high sulphur-bearing oils is practised and the question of how long it may be used before discarding is answered by saying that it may be used again and again until further reaction between the sour gasoline and lead sulphide, which is sulphur saturated doctor, ceases. The final loss of efficiency of old doctor (lead sulphide) is to a large extent due to a film of sweet gasoline which adheres to the surfaces of the very small particles of sulphide. So, that any oxygen that might adhere to these wetted particles would be to no advantage, since the oil was already sweet. On the other hand, freshly precipitated lead sulphide would have a tendency to become wetted with sour gasoline containing the lead mercaptides and when the oxygen comes into contact with these wetted particles of lead sulphide, the lead mercaptides will be decomposed by the oxygen, to give the disulphide and lead oxide which redissolves to give plumbite. The striking thing about the doctor solution made from recovered lead, however, is that it is superior to doctor made from fresh chemicals, and furthermore, costs less than half as much as the fresh materials.



Conversion tank and connecting tank at Wichita Falls, Tex., refinery of the American Refining Properties.

Through the use of the F-C process in our plant, we have been able to recover a greater part of all of the caustic soda used in the fresh doctor solution, besides considerable light oil, elementary sulphur, and approximately 95 per cent of the litharge. The doctor solution that is made from these chemicals that have been recovered has enabled the treaters to treat out their stocks in considerably less time than formerly. In addition good corrosion, gum tests and color follow.

The object of the F-C process is to reclaim all of the chemicals from the spent doctor sludge, and differs from other recovery processes in that it practically realizes this object. That is, the caustic soda and sulphur are not used up in order to recover the lead oxide, but these chemicals are themselves recovered along with the litharge. None of the caustic soda is used to neutralize the hydrochloric acid, which is a by-product in the conversion, as the litharge is readily freed of all acid by water washing.

Operation of Process

The operations involved in the F-C process are: collecting the spent plumbite sludge from the continuous units and batch agitators by placing an ordinary steel tank at a lower level than the draw-offs of the units and agitators; separating the various constituents of the spent plumbite sludge into a top layer of oil, an intermediate layer of caustic soda solution, and a lowermost layer of lead sulphide. At our plant we use a section of an old shell still, 6 feet by 12 feet, set in a vertical position; drawing off the gasoline to rerun, which is followed by the drawing off of the caustic soda solution, which is used for preparing doctor in the subsequent operations, and washing the solids which remain, principally lead sulphide and sulphur to remove practically all of the caustic soda. The principal operation of the F-C process consists in converting the lead sulphide sludge into litharge and free sulphur.

After the settling and washing of the lead sulphide sludge, the sludge is transferred to a conversion tank. The conver-

(Continued on Page 148)

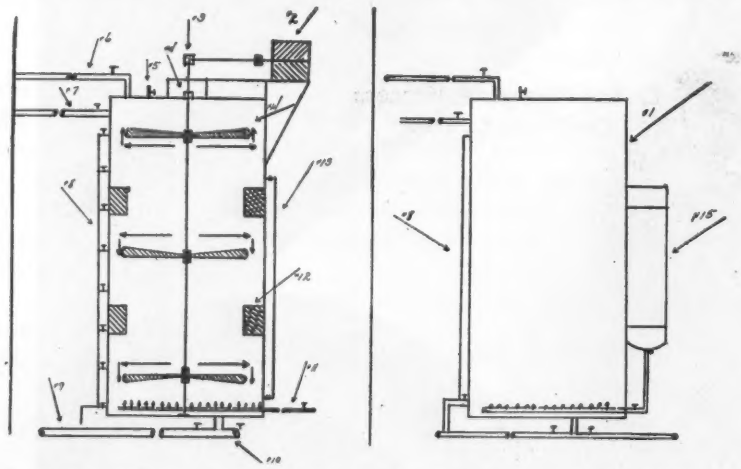
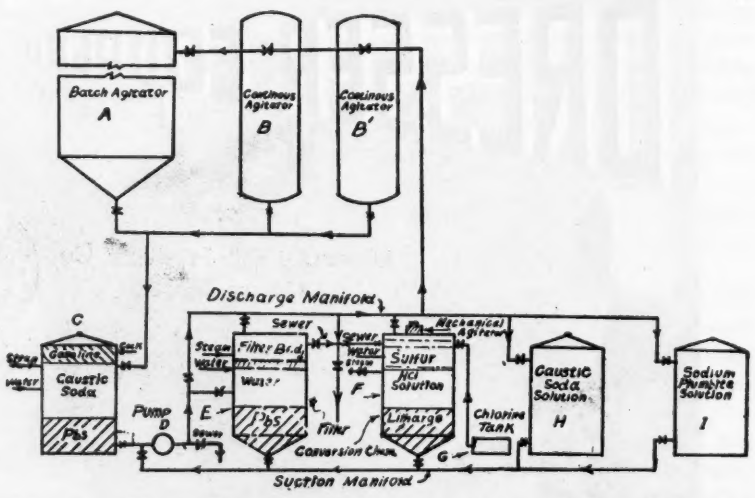


Diagram of mixing tank: 1—Mixing tank; 2—motor; 3—gears; 4—packing gland; 5—pressure release; 6—air; 7—water; 8—manifold; 9—recovery line; 10—lead sludge to mixer; 11—chlorine; 12—baffles; 13—gauge glass; 14—propeller blades.



Flow chart of plumbite recovery process. Spent plumbite is drawn from agitators A, B, and B¹ into storage tank C where it is heated and allowed to settle. The settled constituents are separately drawn off, the gasoline to rerun, the caustic soda to tank H and the lead sulphide to filter E where it is water washed until neutral. Then it is discharged into conversion chamber F where it is agitated with water and contacted with chlorine from tank G. Upon conversion the constituents of the conversion chamber are settled. The weak acid is discharged to the sewer while litharge and sulphur are water washed until free from acid. Then caustic soda is pumped from tank H into chamber F to dissolve the litharge to form sodium plumbite which is pumped to tank I for use in agitators A, B and B¹ as before. The sulphur can be used in regular manner. Pump D can be used for all transfers of solutions from the various tanks. All tanks are equipped with swings. Note.—The filter bed is not used at the American installation.

The biggest noise in the industry is actually no noise at all It is the silent, pulls-more performance of Dubbs Cracked Gasoline

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

VAN ZANDT COUNTY DISCOVERY EXCITING EAST CENTRAL TEXAS

By L. E. Bredberg

FORTH WORTH, Tex., Oct. 21.—Operators, men of the companies, and natives in East Central Texas are now talking nothing but Van Zandt County, since last week's discovery by the Pure Oil Co. in the southeast corner of its 17,000-acre block, about a mile north of the town of Van which grew up overnight from a "wide place in the road" to a town of several hundred people.

Encountering the Woodbine sand, about 800 feet higher than it is found in the Boggy Creek or Powell Pools, at 2,656-61 feet, the well was drilled 54 feet in, shut down at 2,710 feet and completed at that depth, producing 36 gravity (A.P.I.) oil, and opening up one of the most interesting if not the greatest pool to date, causing quite a threat to the industry. Due to the possible magnitude of the field, and the extensive drilling that might take place if it is not checked immediately, representatives of companies, holding acreage in the vicinity of the well, have already met and talked over plans for curtailing drilling operations. The second meeting of the operators is to be held in Fort Worth to talk over further plans for curtailing drilling operations, and if the plan for unit operation of all leases near the well goes through, the field will be developed quite conservatively. The Pure Oil Co., Shell Petroleum Corp., The Texas Company and Sun Oil Co. officials all seem to be in favor of unit operation, and there has been but one tentative offset location made. This will not be drilled if the curtailing plans meet with the approval of all concerned in the area.

There is but one fly in the curtailment ointment, and that is a three-acre tract near the town of Van, owned by the Roberts Oil Corp. of Breckenridge. It is reported that Roy Reynolds of Dallas has already contracted to drill a test on this acreage, and if this test is started it will necessarily call for several offset wells to be drilled. Possibly the test can be forestalled.

Geophysical Find

This area was first worked by geophysical instruments, then core drilled. These drilling tests showed shallow oil in the Nacatoch sand, at depths varying between 1,300 and 1,400 feet. The type of the structure from which the production comes is causing considerable controversy amongst the geologists. It seems to be associated closely with faulting and is practically considered as a dome, but not of the salt dome variety, or of the Mexia or Powell type of faulting. Other tests will be made in all directions for several miles on each side of the discovery, although not near it, and these tests will probably prove the type of structure, and whether it is a dome, or a result of faulting.

An extensive play is now taking place from the center of Henderson County, northeast through Van Zandt, Smith, Wood, Raines, Upshur, Camp and into the southern portions of Hopkins and Franklin Counties, and leases and royalty prices have jumped up tremendously.

The nearest production to this wildcat strike is in the Humble Oil & Refining Co.'s Boggy Creek Field in Anderson and Cherokee County. This pool is approximately 50 miles south of the Pure discovery. The Powell Field is approximately 65 miles southwest of the Pure discovery.

The field is to be known as the Van Field due to the fact that the discovery well is located only about 1 mile north of the small town of Van. It is 12 miles from the nearest railroad, the Texas & Pacific which runs through Grand Saline, and it is at this place where the majority of supply houses and production offices will probably be opened. It is understood that the Pure Oil Co. has already opened a district office at this place, although it is contemplating building a large camp near the site of the discovery.

B. S. SoRelle, general manager of the Texas-Louisiana operations for the Pure Oil Co., was responsible for the company making the Van Zandt County play, and the well was completed under direct supervision of Mr. SoRelle and R. W. McIlvain, vice president, Chicago.

Well Choked In

The past 24 hours' gauge, ending 7 a. m., October 21, showed the well had produced 270 bbls. through a one-half-inch choke with 50 pounds pressure. As there is no casing below 2,578 feet where the 9¼-inch is set, a string of 5-inch casing will be run to the bottom. The well is choked in due to lack of sufficient storage to allow it to flow wide open. The nearest pipe line to the well is the Gulf Pipe Line Co.'s trunk line out of Oklahoma to the coast, but the Prairie Pipe Line Co. may run from the Powell Field. The Pure Oil Co. has a refinery at Smiths Bluff near Beaumont and the oil may be transported to that place by

(Continued on Page 141)

High Spots in Field News

OKLAHOMA

The Texas Company's No. 1, between Searight and Seminole City Pools, Seminole County, made 303 bbls. in one hour from Wilcox sand.

Prairie company's No. 1 Palmer, largest well completed in Okmulgee County for some time, made 405 bbls. from Dutcher sand.

Prairie company's No. 1 Sudik, Cleveland County, is deepest drilling well in State, at 7,310 feet, with nothing showing.

Shell Petroleum Corp.'s No. 1 Story, Marshall Pool, made 2,044 bbls. initial from Wilcox.

WEST TEXAS

Midwest Exploration Co.'s well in Fisher County has opened more producing area 1½ miles southeast of Sinclair well, which has produced 125,000 bbls. since its discovery.

Seven dry holes out of nine completions in Taylor-Link and Girvin Pools make these areas look disappointing.

Ector County's new wildcat better than expected. Ward County and Taylor County wildcats marking time.

CALIFORNIA

District Court of Appeals stops injunction proceedings in local superior court until October 31.

Cut in crude prices in flush fields outcome of failure to co-operate on gas conservation law.

Barnsdall and Rio Grande get good well in initial Tideland project.

KANSAS

Cosden's No. 1 Devesse, Sedgwick County, has 2,000 feet of oil in hole. It is west of Valley Center Pool and first to find Wilcox production in that area, extending production half mile west.

Active wildcat plays both east and west.

NORTH LOUISIANA-ARKANSAS

Mississippi gas show may have been a pocket.

Deepest Pine Island producer further delayed.

Three Zwolle wells make exceptional records in increasing production.

GULF COAST

New flush production at Fannette and Humble and good completions at Barbers Hill and Refugio send coastal production figures up 16,000 bbls. to total of 188,000 bbls.

NORTH TEXAS AND PANHANDLE

Half mile extension of Saunders Pool in Gray County, Panhandle.

Eastland Pool in Coleman County apparently defined to west.

MICHIGAN

Producer of Pure Oil Co. in Mount Pleasant makes 1,060 bbls. initial.

SOUTHWEST TEXAS

Darst area has 4,000-bbl. well 6 miles southwest of Bruner Field.

PIPE LINE TO OMAHA IS AGAIN CONSIDERED

The Oklahoma Natural Gas Corp. has been giving some consideration to the matter of constructing a 22-inch pipe line to serve Omaha, Neb., with natural gas. Should the project materialize it would necessitate the building of a line about 500 miles long at a cost estimated at approximately $24,000,000. The line would extend from properties of the Oklahoma Natural Gas Corp. in Texas, Oklahoma and Kansas.

The citizens of Omaha sometime ago voted down a proposal submitted by various companies who proposed to bring natural gas to Omaha but it is said Omaha now desires to reconsider the matter and that discussions with the Oklahoma Natural Gas Corp. have taken place with a view of getting that company to supply natural gas. That company has large reserves of natural gas and could supply a greater quantity than would be needed by Omaha and any other cities along the route of the proposed pipe line.

UNION OIL REDUCES VENTURA AVENUE CRUDE

LOS ANGELES, Calif., Oct. 22.—Union Oil Co. went the Standard of California one further and cut Ventura Avenue crude and at the same time warned Elwood operators that this field would also be reduced if production was not materially and promptly cut. Ventura Avenue crude averaging 19 to 24 degrees inclusive is now 40 cents per barrel, 25 degrees and above 60 cents per barrel.

COLOMBIA EXPORTS

NEW YORK, Oct. 22.—Colombian crude oil exports, through Cartagena, amounted to 1,648,891 bbls. in August, with a total value amounting to $2,506,-315, compared with 1,484,303 bbls., valued at $2,122,553 in August, 1928. Sixty-five per cent of the August exports were destined for the United States, compared with 44 per cent of July exports. Exports from Cartagena in the latter month were 1,507,865 bbls.

Late News From the Fields

KANSAS

J. S. Cosden, Inc., No. 1 Devesse, NE cor. NW SW Section 1-26-1w, Sedgwick County, has 2,000 feet of oil in the hole from the Wilcox sand at 3,391-96 feet. This test is on the west side of the Valley Center Pool and is the first well to find the Wilcox sand productive in that area. It extends production a half mile west.

Moncrief & Thomas' No. 1, NW cor. SE Section 9-13-19w, Ellis County, swabbed 280 bbls. from the Oswald lime at 3,595-97 feet. It was deepened to 3,603 feet and was swabbing 12 bbls. an hour on the gauge of October 22.

GULF COAST

HOUSTON, Tex., Oct. 22.—Cranfill & Reynolds' No. 3 Esperson, the third well in the new field near Sheeks in western Liberty County, flowed 212 bbls. of oil in the first 12 hours through a half-inch choke from sand at a total depth of 3,-336 feet. This well is 100 feet west of Yount Lee Oil Co.'s No. 1 Mooresbluff, the discovery well. Humble Oil & Refining Co.'s No. 3 Deatherage, at DeWalt, was completed Tuesday flowing 250 bbls. daily at 3,737 feet.

WEST TEXAS

FORT WORTH, Tex., Oct. 22.—The Midwest Exploration Co.'s No. 1 Steele in Section 210, Block 1, B.B.B.&C. Survey, Fisher County, has opened up more producing area at least 1½ miles southeast of the Sinclair Oil & Gas Co.'s No. 1 Steele in Section 17, which has produced over 125,000 bbls. since its discovery, and is averaging around 260 bbls. at present. Top of pay of the Midwest well is 2,192 feet and total depth is 2,193 feet, only 1 foot in the pay. The company is now running a liner. The well has made two heads of oil since shutting down and looks good for a medium sized well as it stands. The Texas Company abandoned its No. 1 Stevens, 1 mile west of the Sinclair well in Section 79. It had a slight show of oil at 3,302-03 feet but was abandoned as dry at 3,315 feet.

Cranfill & Reynolds' No. 1 Robeson, N of Section 15, Block 5, H.&T.C., Ward County, after being shut down for four days at 2,495 feet pumped 32 bbls. of oil from pay found at 2,420 feet.

(Continued on Page 143)

A.P.I. WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks—for the week ending October 19 follows:

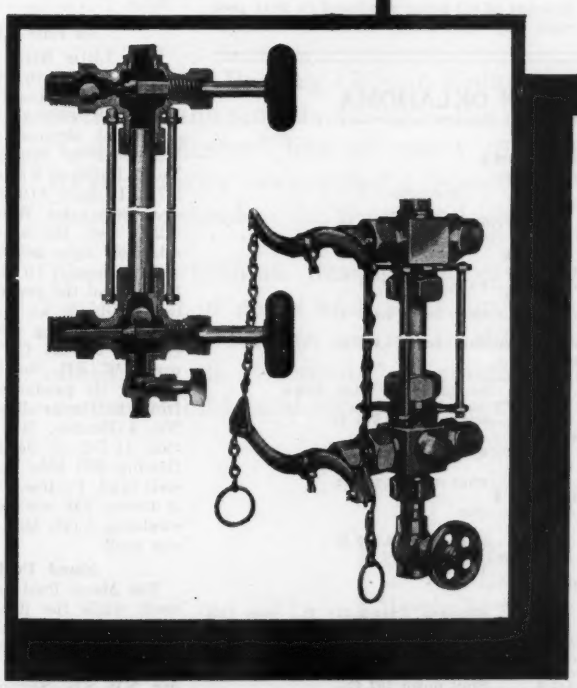
	(1)	(2)	(3)	(4)
East Coast	100.0	3,552,100	4,261,000	9,163,000
Appalachian	89.5	622,500	790,000	740,000
Indiana, Illinois, Kentucky	98.0	2,125,000	4,013,000	3,791,000
Oklahoma, Kansas, Missouri	84.5	1,952,100	2,240,000	4,020,000
Texas	91.6	4,205,200	4,334,000	13,776,000
Louisiana and Arkansas	97.1	1,483,800	1,637,000	5,016,000
Rocky Mountain	93.4	475,400	1,713,000	972,000
California	98.4	5,175,900	13,172,000	108,943,000
Total United States	94.9	19,592,000	32,160,000	146,421,000
Texas Gulf Coast	100.0	3,233,500	3,628,000	10,335,000
Louisiana Gulf Coast	100.0	1,035,000	1,366,000	4,273,000

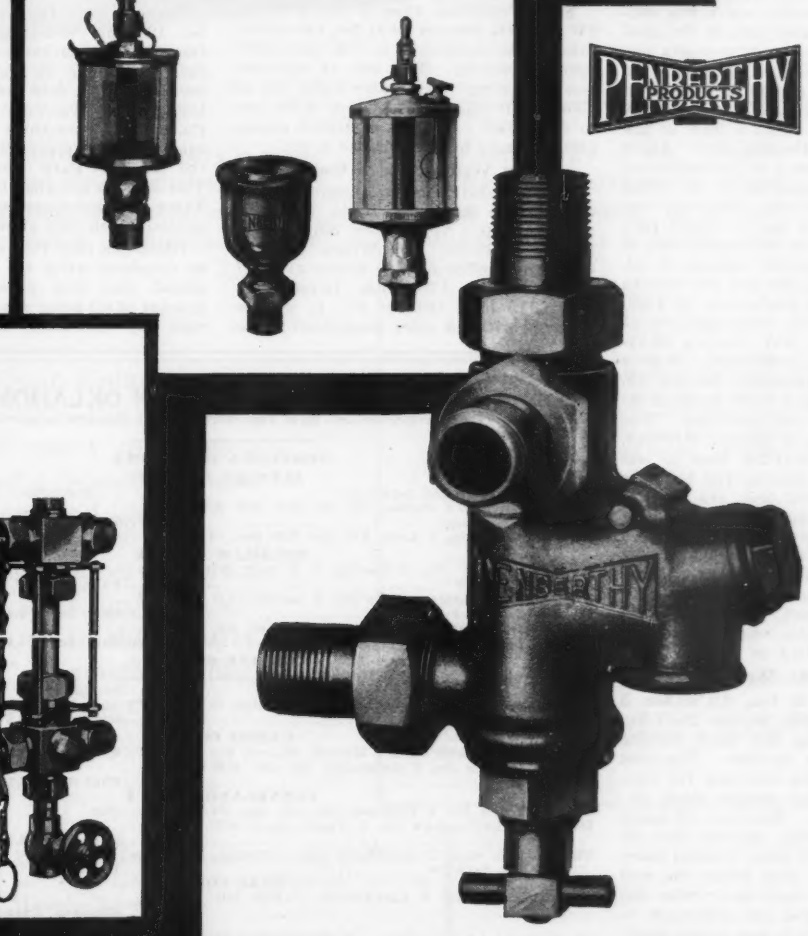
(1) Per cent refinery capacity represented. (2) Crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.

ALWAYS DEPENDABLE

PENBERTHY injectors, liquid level gages, and lubricating devices are universally used in field, refinery and natural gasoline plant because they have always been dependable under the most severe service conditions.

Penberthy Products are carried in stock by supply houses everywhere.





PENBERTHY INJECTOR COMPANY
DETROIT
ESTABLISHED IN 1886 CANADIAN PLANT, WINDSOR, ONT.

Enormous Wells in Okla. City Pool

Potential Production Will Have to Be Revised in Light of Recent Completions. Emphasize Need of Proration

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Oil production in Oklahoma shows a big increase this week mostly due to the open flow of all wells in the Oklahoma City Pool which is making new highs every day. The daily average production for the State for the week ending October 19 was 708,000 bbls. which is an increase of 58,000 bbls. over the previous week's record. The production will soon be averaging an amount more nearly in line with requirements when the proration plan becomes fully effective in all the different flush areas of the State on November 1.

Indian Territory Illuminating Oil Co.'s No. 1 Johnson, NE cor. NW, Section 25-11-3w, Oklahoma County, which was estimated to be the largest well in the field when it first blew in several weeks ago but which quit flowing, is again back on natural production making 280 bbls. in 25 minutes. After refusing to show any signs of life for five weeks it blew in late Sunday afternoon, October 20. About 50,000,000 feet of gas a day accompanied the oil which is estimated to be at the rate of 700 bbls. an hour. The well was deepened from 6,335 feet to 6,379 feet, and a sand screen set on bottom, but it never regained its initial volume of oil. The well reached the lime pay two months ago with an initial production of 1,000 bbls. an hour. Same company's No. 1 A. Bodine, NE cor. NW, Section 30-11-2w, made 2,136 bbls. in 12 hours. It blew in late Saturday afternoon, October 19. It is producing from a total depth of 6,440 feet, from the Silicious lime. The same company's No. 2 Button, SW cor. NW SW, Section 19-11-2w, blew in late Friday, October 18, making 753 bbls. the first hour, and 15,983 bbls. the first 24 hours. Accompanying the oil was about 60,000,000 feet of gas. It was bottomed at 6,530 feet, in Silicious lime, with the 7-inch casing landed at 6,111 feet. It is two locations south of the same company's No. 1 Fuzzell, which has been averaging 15,000 bbls. daily since the shut-in plan was lifted on October 12.

More Big Wells

Mid-Kansas Oil & Gas Co.'s No. 3 Fortson, NW cor. NE, Section 24-11-3w, blew into production last week making as high as 841 bbls. an hour. The first four hours' production averaged 761 bbls. an hour. It was also making about 20,000,000 feet of gas. The first 18 hours it gauged 13,000 bbls., and the first 24 hours it made 17,166 bbls. Several times within the last few days before the well blew in, it flowed mud and water but the gas pressure was not sufficient to unload the hole until it was bailed down. The hole was cleaned out Wednesday noon, October 16, and was not opened until Thursday when the production test was first made. The well was spudded July 17 and was drilled to a total depth of 6,554 feet, the 7-inch casing was set at 6,190 feet. It is believed to be producing from the same formation as the Tom Slick Oil Co.'s No. 1 Glidden, which blew in making about 960 bbls. an hour, and is the north offset to Mid-Kansas Oil & Gas Co.'s No. 3 Fortson. Both wells are shut in for the 30-day shut-in period.

Tom Slick Oil Co.'s No. 2 Glidden, SE cor. SW SE, Section 13-11-3w, also blew in last week making 2,135 bbls. the first 24 hours, and it was then shut in for 30 days. Its performance was far below that of No. 1 Glidden, on the same lease. The first hour it made 130 bbls. and then slowly declined to 90 bbls. an hour the fifth hour. Gas volume was 50,000,000 feet at first but it also declined to half that figure.

Magnolia Petroleum Corp.'s No. 1 Noble, NW cor. SW SW, Section 30-12-2w, Oklahoma County, a wildcat east of the city, and several miles north of the main pool, found a small showing of gas in the lime at 6,362 feet. The fluid had been bailed down and it blew out about 2,000 feet of mud to clean the hole. It was estimated to be making 2,000,000 feet of gas. Oil pay is expected at a deeper level and the test will be drilled ahead.

The discovery well in the pool will be drilled deeper. Tools were rigged up to deepen from 6,572 feet in lime. It is the Indian Territory Illuminating Oil Co.'s No. 1 fee, C SE SE, Section 24-11-3w. It has declined to about 500 bbls. daily.

Shell Petroleum Corp.'s No. 2 Petty, SW cor. NE, Section 30-11-2w, has drilled through the cement and is shut down with nothing showing. This test at one time was producing. Salt water killed the oil flow and it was deepened from 6,591 feet to 6,684 feet. It will be drilled deeper after the mud has been bailed down.

Good Well in Logan County

The Marshall Pool in Logan County continues to show large wells. Shell Petroleum Corp.'s No. 1 Story, SE cor. SW Section 30-19-4w, had Wilcox sand at 5,895 feet, and is drilling deeper at 5,917 feet. It made 1,345 bbls. October 13, and 1,119 bbls. October 17. It will be prorated with the other production in the field. It has been the Shell Petroleum Corp.'s policy to develop this area slowly for the last two years. Seldom has the production been over 12,000 bbls. daily from their leases since the discovery well was drilled in several years ago. The average production for the pool is around 16,000 bbls. daily.

Oklahoma City Pool, which ended the 30-day shutdown on October 12, is now permitted to produce all its wells wide open until November 1, when it will be prorated 40 per cent. On December 1 this pool will be prorated 50 per cent. The pool at this time looks as if it might reach the 100,000-bbl. mark by the end of the month. For four days last week the pool made a new record in production. It also has good possibilities of finding extensions in every direction.

Operations in Oklahoma County number 190 this week, including locations. One of the remarkable things about this field is that in all the tests that have been drilled to date not a hole has been lost. Indian Territory Illuminating Oil Co. has 132 operations in the field. The same company made 19 new locations on the Trosper Park property last week. This acreage is owned by Oklahoma City. These new locations make a total of 32 operations on this property.

Oklahoma City Pool is staging a greater comeback after the 30-day shutdown period than was expected. The large amount of oil being produced in that pool each day shows the need for conservation. It is the opinion of some operators if all restrictions were removed the State's production would reach 775,000 bbls. daily. The performance of all the wells in the Oklahoma City Pool proves that a shutdown plan does not damage and will go a long way toward helping operators in other areas realize the importance of such moves, without fear of injuring their wells.

Oklahoma City Production

The peak of production for the Oklahoma City Pool was reached last week when the pool made 89,219 bbls. This one day's production was made October 17. The gauge by companies follows:

Company and farm—	Bbls.
Coline:	
Olds	4,784
Cromwell:	
Trosper	8,359
Hall & Briscoe:	
Childs	7,102
I. T. I. O.:	
No. 2 A. Bodine	5,148
Button	5,294
Fuzzell	15,420
Henning	512
Fee	479
Trosper	2,276
Mid-Kansas:	
No. 1 Fortson	2,506
No. 2 Fortson	2,494
No. 3 Fortson	13,000
Prairie:	
Hiddleston	4,665
Sinclair:	
Stamper	2,885
Kinter	110
W. Franklin:	
Lowery	5,524
Total	89,219

In East Little River

East Little River Pool, in Sections 4 and 5-7-7, had an average daily production of 26,753 bbls. from 33 wells for the past week, ending October 17, which is a 700-bbl. decline. One new well was completed by Sinclair Oil & Gas Co., No. 6 Phillips, NE cor. SE SE, Section 5-7-7. It made 410 bbls. after a 40-quart shot from the Wilcox sand at 4,195-4,220 feet. On account of it being a relatively light producer the owners may drill it deeper. In the old area of Little River Pool the production has been holding steady, it averaged 54,930 bbls. for the week ending October 17. Independent Oil & Gas Co.'s No. 5 Davis, SE cor. SW SE, Section 2-7-6, has been holding its production around 870 bbls. from the Cromwell sand. Gypsy Oil Co.'s No. 4 Benton, NW cor. NE NE, Section 11-7-6, is declining but it is still flowing 850 bbls. daily from the Cromwell sand. Prairie Oil & Gas Co.'s No. 1-A Davis, SW cor. NE, Section 13-7-6, is swabbing 1,000 bbls. daily from the Wilcox sand.

Maud Pool Declining

The Maud Pool had one new well last week while the production continues to show a decrease which amounted to 400 bbls. daily for the week ending October 17. Gypsy Oil Co.'s No. 2 Gossland, SW cor. NW SW, Section 9-8-5, was the new well completed. It had Misener sand at 4,049-56 feet, drilled to a total depth of 4,070 feet in Hunton lime, swabbing 512 bbls. Prairie Oil & Gas Co.'s No. 1 Jordan, had Misener sand at 4,052-65 feet, where it flowed 280 bbls. in 12 hours on October 17, with some water showing. Sinclair Oil & Gas Co.'s No. 1 Smith, SW cor. NW NW, Section 9-8-5, has been drilled to a total depth of 4,055 feet, in Hunton lime and shot with 100 quarts. It swabbed 795 bbls. on the gauge of October 17.

East Earlsboro's Open Flow

East Earlsboro Pool had one day of open flow last week when it gauged 46,600 bbls. which is the new potential for the following week. It made a daily av-

(Continued on Page 118)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Bros.' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Drlg. 3,320 ft.

BECKHAM COUNTY

Kay and others' No. 1 Martin, C E half E half NW Sec. 32-8-24w	Drlg. 1,832 ft.
Producers Exploration Co.'s No. 1 Seidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson and others' No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,547 ft.

BLAINE COUNTY

Lowen and others' No. 1 Unknown, NW cor. SW NW Sec. 27-16-11w	Spudded and shut down.
Washoma Oil Co. and others' No. 1 Phillips, C NW SW Sec. 12-19-10w	Shut down 2,880 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Horton, SE cor. Sec. 8-6-13w	Shut down 535 ft.
W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Rig.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.
Phillips Pet. and T. B. Slick's No. 1 Sudick, NE cor. NE Sec. 8-10-2w	Drlg. 7,235 ft.

COAL COUNTY

J. S. Cosden's No. 1 Richardson, C NW NE NE Sec. 6-2-8	Simpson 2,860-3,210 ft.; hole full water; abandoned.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 1,285 ft.
McGinley & Sigler's No. 1 Willsey, NW cor. SE SE Sec. 7-2-8	Shut down 3,016 ft.
E. W. Whitney's No. 1 Brown, C SE NE Sec. 10-2-8	Shut down 202 ft.

COMANCHE COUNTY

Green and others' No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

CREEK COUNTY

Carter Oil Co. et al's No. 1 Clinton, SW NW Sec. 12-15-9	Rig on ground.

GARFIELD COUNTY

Continental and Barnsdall's No. 1 Brown, CNL SW Sec. 10-20-4w	Location.
E. L. Love and others' No. 1 White, SE cor. NW Sec. 9-24-6w	Underreaming 5-in. csg. 5,566 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Spudded and shut down.
J. M. Henry and others' No. 1 Abraham, SE cor. NW Sec. 4-5-8w	Rig.

GRANT COUNTY

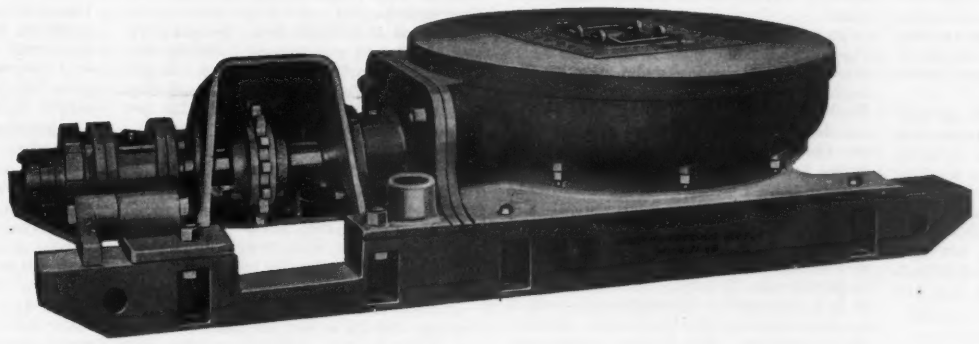
Gypsy Oil Co.'s No. 1 Belderbeck, C SE SE Sec. 27-28-7w	Drlg. 2,020 ft.
Bailey's No. 1 Stover, C SW SE Sec. 20-27-5w	Rig on ground.
Baucher et al's No. 1 Deadman, SW SE Sec. 12-28-4w	Shut down 3,495 ft.
Cowden and others' No. 2 Vollmer, CEL NE SW Sec. 22-25-4w	Shut down 5,640 ft.
Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w	Rig.

GREER COUNTY

Helmerick & Payne's No. 1 Henck, NW cor. Sec. 23-6-24w	Fishing 1,650 ft.
I. T. I. O. and others' No. 1 fee, C SW NE Sec. 17-6-24w	Fishing csg. 1,902 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w	Shut down 625 ft.

(Continued on Page 97)

The New "GUMBO-BUSTER" *Rotary*
RUNS IN A BATH OF OIL



The "Gumbo Buster" line of rotary drilling machinery is manufactured by the American Well and Prospecting Company, the first manufacturer of rotary drilling equipment, who make a complete line of light and heavy rotary machinery of latest design.

A 26″ Roller Bearing Oilbath Rotary is now offered by the manufacturers of the renowned "Gumbo Buster" line of rotary machinery. Its superiority has created a tremendous and instant demand in the deeper oil fields.

The new Oilbath design assures constant lubrication of gears and cones, prevents entrance of all foreign matter to these parts, eliminates all "whipping" in rough drilling, insures reliable and economical service.

The superiority of the "Gumbo Buster" Oilbath rotary is based upon the following novel and sound principles of design and construction:

1. **All steel rotary including skids.**
2. **Inside hold-down, constantly lubricated, forms a radial bearing for table, holding it in exact concentric rotation. In rough drilling this bearing takes the tooth load of pinion on table gear. These features afford even, smooth, quiet rotation.**
3. **Both pinion boxes are in one casting and are not adjustable, assuring proper alignment at all times of the four Hyatt Roller Bearings (two in each box) and proper engagement of teeth on ring gear.**
4. **4¾″ pinion shaft runs in four Hyatt Roller Bearings.**
5. **Gear teeth are forged, cut, hardened and shrunk on master wheel.**
6. **Convenient locking device on end of pinion shaft.**

[**Pages 10 to 14 of Composite Catalog of Oilfield and Pipe Line Equipment illustrate part of "Gumbo Buster" Line.**

Write for full information.]

Republic Supply Company

OIL AND GAS WELL SUPPLIES
Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

Proration in Kansas Gets Results

New Pools and Extensions Outside of Prorated Zones Reported in Past Week. Active Wildcat Play Both East and West

By W. A. Spinney
Staff Correspondent, Kansas Fields

Daily average oil production in Kansas for the week ending October 19 declined to 111,200 bbls. This is the lowest daily average since last April. The operators in the Valley Center Pool in Sedgwick County reduced the pipe line runs in that pool. The entire county averaged 28,105 bbls. daily for the last week ending October 16. The county prior to the time the conservation plan was made effective had been producing around 38,000 bbls. daily.

At the beginning of this week the proration of the Valley Center-Wright area in Sedgwick County is reported to be in full force and effect. There was a slight flurry among some operators in the closing days of last week that gave rise to the report that the self imposed curtailment movement was in danger, but Umpire Johnson reports that misunderstandings have been cleared up and that the situation is satisfactory.

New Producing Area

The latest wildcat test to find oil in Sedgwick County is the Plains Oil Co.'s No. 1 Curry, SE cor. SW SW, Section 2-27-1w. This wildcat test was drilled on a 10-acre tract which is surrounded by leases held by the Shell Petroleum Corp. The block had been core drilled by the Shell Petroleum Corp. The test found oil in the Simpson at 3,389 feet, where it made 105 bbls. the first 24 hours. Some operators are of the opinion that the well is producing from the same formation that made the Valley Center Pool such an important factor in the development of Sedgwick County and also the same pay that is producing in the western part of the State. The Shell Petroleum Corp. has made two locations offsetting this well, one in the SW cor. SE SW, Section 2-27-1w, and the other in the NW cor. NE NW, Section 11-27-1w. The Plains Oil Co.'s well is reported to have a showing of water after running the bailer. The water was encountered at 800 feet off bottom.

Offsetting the Plains Oil Co.'s new well to the west J. C. Johnson is drilling in approximately the CSL SW SW, Section 2-27-1w, at 800 feet. It is the only test drilling near the new producer. Plains Oil Co. has also made location for its No. 2 Curry, NE cor. SW SW, Section 2-27-1w.

Extend Valley Center

The Valley Center Pool was extended almost a half mile last week when the Prairie Oil & Gas Co. and others' No. 1 Bright, NE cor. NW NW, Section 1-26-1w, Sedgwick County, found oil in the Simpson at 3,367 feet. The hole filled with oil in an hour and a half. It is estimated to be a 400 or 500-bbl. well when completed. Large producers may be expected from the area surrounding this test.

Gas in Barber County

An important strike was made in Barber County last week when the wildcat test of Robertson and others' No. 1 Powell, SE cor., Section 11-30-10w, found what is estimated to be 7,000,000 feet of gas at 1,200 feet. The gas was also accompanied by a small show of oil. This well is located on a large structure that had been core drilled. It appears to have an excellent chance of finding oil production, as it is structurally running high. An outlet for Barber County gas has been provided by a new 16-inch line now under construction from this area to serve central Kansas and Nebraska.

Playing Kansas "Highs"

The wildcatter in Kansas has had several highs to follow in locating test wells in central and western Kansas. If the operator follows these ridges it will increase the chances of locating new oil pools. Early in the spring The Oil and Gas Journal published a cross section of this part of the State. The purpose was to show the most promising areas and what the test wells that had been drilled in these areas showed, the difference in formations and where they were found.

Many oil pools have been found on these highs. The most widely known is the Granite Ridge on which the El Dorado and Augusta Fields are located in Butler County. The Bluff City Arch which runs through Sedgwick and Sumner Counties has the Valley Center Pool. It is believed that several other pools will be located on this high. The Abilene Arch in eastern Reno and central McPherson Counties has to its credit the Ritz Pool and the recently completed Wilcox sand well of the Derby Oil Co. both in McPherson County. The most westerly is known as the Ellsworth Arch, which is in eastern Stafford and western Rice Counties. The highest gravity oil in the State was found on this high by the Tom Slick Oil Co. and others' well in southwestern Rice County.

All these arches have received the attention of oil operators and have been leased in the past year. It is the general opinion that these areas will be tested by wildcat wells for many years.

New Pool in Eastern Butler

Another wildcat test in Butler County has found a good showing of oil. Aladdin Petroleum Corp. found its second wildcat producer in Butler when oil rose 1,000 feet in the hole at No. 1 OW, NE cor. SE, Section 20-26-7. The oil showing was found at 2,720 feet, the horizon not being identified. It appears low for the Bartlesville sand and high for the Mississippi lime. The 175 feet of open hole will be cased before the test is drilled deeper. The test is located 1½ miles northwest of the old Young Pool. The company has 400 acres in a block surrounding the test.

Miller and others' No. 1 Shumway, C SW, Section 2-20-9w, Rice County, southwest of Lyons, had a showing of gas and two showings of oil. First show of oil was found at 2,925-35 feet. Second showing of oil and gas was at 2,983-90 feet, where a puff of gas was ignited. It was quickly extinguished by the snuff line. The test was drilling ahead at 3,120 feet on the last report.

Shell Petroleum Corp.'s No. 3 Ritz, NW cor. NE SW, Section 1-20-2w, McPherson County, the fourth test to approach the chat pay in that area, found water at 2,967 feet. The test was 27 feet in the chat. The crew is underreaming the casing to the bottom before drilling deeper.

Extends Ritz Pool

Dixie Oil Co.'s No. 1 Flock, NW cor. SE NW, Section 1-20-2w, in the Ritz Pool, McPherson County, had chat at 2,925 feet. It was drilled to 2,932 feet where the 6-inch casing was landed and cemented. It was later drilled to 2,962 feet where it was making 2,000,000 feet of gas and spraying oil. This test extends the Ritz Pool in McPherson County.

In Greenwood County

Greenwood County has several new tests starting. Empire Oil & Refining Co.'s No. 2-C Norton, SE cor. NE NE, Section 2-22-12, is a rig moving in. Derby Oil Co.'s No. 1 Walters, NE cor. NW NW, Section 21-22-13, is rigging up. National Refining Co. and others' No. 1 Barrier, NW cor. SW, Section 13-25-9, is a location.

Several interesting tests are being started in Greenwood County, east of Madison. One of the operations attracting attention is Simmons and others' No. 1 Steele, in the SE, Section 32-22-10. Northwest of the Lamont-Demler Pool a drilling play is being made for the producing trend to the Lamont district. Empire Oil & Refining Co.'s No. 2 Norton, SE cor. NE NE, Section 2-22-12, is getting started and the Theta Oil Co. is planning to explore that district. In the south end of the Seely Pool, Empire Oil & Refining Co.'s No. 6 Edwards, NE cor. SE SE, Section 21-23-11, is estimated to be a 400-bbl. flush producer.

Another Producer in Rice County

Phillips Petroleum Co. is completing another producer in Ellis County. It is No. 1 Weigand, NW cor., Section 19-21-17w, in the northeastern part of the Ellis County Pool. This pool is owned almost exclusively by that company. The test had the Oswald pay at 3,441-48 feet, where it filled up 1,000 feet of oil in 24 hours. It will be cleaned out and swabbed. This test is the west offset to No. 1 Schmeidler, which opened up a new producing territory in the middle of last summer. It is 3 miles south of the discovery well in the county, No. 1 Shutts, drilled by the same company.

Oil exploration in gaining in Lyon County. Several major oil companies have geological survey parties working throughout the area. Bird, Hanley & Sheedy, after getting a dry hole at No. 3 Hughes, have started another test. It is No. 4 Hughes, SW cor., Section 19-21-10. About a mile north the same operators have started another test for No. 1 Williams, in Section 18-21-10. In Section 30-20-10, the same operators are plugging back their No. 1 Welsh to test a showing in the Bartlesville sand, which attracted considerable attention several weeks ago.

Gypsy Oil Co. has announced a new location in Reno County. The test will be No. 1 Hudson, C SE NE, Section 27-40-10w. It is 18 miles south of the new high gravity well recently completed in southwestern Rice County, by Tom Slick Oil Co. The area surrounding the new test has been core drilled and this location selected. It is probable rotary tools will be used.

Milmac Oil Co.'s No. 1 Stuckey, SW cor. NW, Section 7-26-5w, Reno County, had water in the Simpson lime at 3,988-4,007 feet. The test had a showing of oil in the top of the lime at 3,622 feet.

Butler County

Lario Oil & Gas Co. made location for No. 1 Miller, NE cor. SE NE Section 36-26-3. Empire Oil & Refining Co. is erecting the rig for No. 19 Hess, NE cor. SE NW Section 18-26-5. The hig is being built for No. 18 Houston, SW cor. NE SW Section 19-26-5. No. 90 Koogler, SE cor. SW NE Section 20-26-5, is a rig under construction. The rig is being built also for No. 91 Koogler, NW cor. NE SW Section 20-26-5. No. 92 Koogler, NW cor. SW NE Section 20-26-5, is a rig on the ground. Aladdin Petroleum Co. is erecting the rig for No. 1 Chance, SE cor. Section 14-27-3. Sullivan & Melrose's No. 1 Florence, NE cor. SW Section 6-27-4, is a rig. Lario Oil & Gas Co. made location for No. 1 Newcomb, SW cor. SE Section 7-27-4. Mohawk Oil Co.'s No. 2 McLean, SE cor. NE NW Section 8-27-6, is spudding. Richman & Riegle's No. 2 Detrick, NE cor. SW Section 8-27-6, is drilling at 720 feet. Stroub, Dutton and others made location for No. 1 Kibby, SE cor. SW Section 12-28-3.

Travis and others' No. 1 Harrison, SE cor. Section 21-25-3, is dry and abandoned at 3,190 feet. Lario Oil & Gas Co.'s No. 1 Lancer, NW cor. Section 15-26-3, has been abandoned at 3,255 feet. Empire Oil & Refining Co.'s No. 88 Koog-

(Continued on Page 118)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

Company, farm and location—	Remarks:
BARBER COUNTY	
Rolland & Skelly Oil Co.'s No. 1 Pickens, C NE NW NE Sec. 27-30-14w	Plug back to 4,727-30 ft. to test; total depth 4,735 ft..
Skelly Oil Co.'s No. 1 Temple Ranch, Sec. 13-34-15w	Drlg. 4,160 ft.
Robertson et al's No. 1 Powell, SE cor. SE Sec. 11-32-10w	Shut down 3,260 ft.
Allison & Fitzwilliams' No. 1 Morrisse, C NW SE SE Sec. 9-30-12w	Underreaming 6-in. csg. 4,660 ft.
BARTON COUNTY	
Allison & Fitzwilliams' No. 1 Brodie, NE cor. Sec. 19-16-12w	Drlg. 400 ft.
Slick et al's No. 1 Sweeney, SW NE Sec. 23-17-11w	Shut down 250 ft.
Everett & Wiley's No. 1 Ward, NW cor. SW Sec. 12-20-13w	Shut down 3,948 ft.
BUTLER COUNTY	
E. W. Marland, Inc.'s No. 1 Haber, SW NW Sec. 22-27-3	Spudding.
Martin et al's No. 1 Flanigan, C SW SE SW Sec. 29-27-3	Rig.
Travis et al's No. 1 Harrison, SE cor. Sec. 21-25-3	P. B. to chat at chat at 2,750-73 ft to test; T. D. 3,190 ft.
Milmac Oil Co.'s No. 1 Clearwater, SW cor. Sec. 33-25-3	Simpson 3,106-12 ft.; water.
Lario Oil & Gas' No. 1 Gordon, NW cor. Sec. 15-26-3	Abandoned 3,236-55 ft.
Sinclair Oil & Gas' No. 1 Johnson, NE cor. Sec. 16-26-3	Drlg. 2,360 ft.
White Eagle's No. 1 Bachelder, SW cor. Sec. 17-25-3e	Drlg. 3,110 ft.
Valley Osage's No. 1 Sirs, SE cor. Sec. 34-23-3	Drlg. 400 ft.
CLAY COUNTY	
Chrisler et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Rig on ground.
Derby Oil Co.'s No. 1 Meimueller, C NW SW Sec. 9-10-3e	Shut down 2,200 ft.
Skow Bros.' No. 1 Strud, SW SE Sec. 16-9-4	Shut down 2,910 ft.
COWLEY COUNTY	
A. M. Landon's No. 1 Wheeler, C SW NW SE Sec. 24-30-4	Spudding.
Milton & Mead's No. 1 Tatum, SE cor. SW Sec. 11-31-6	Cleaning out 500 ft.
Roth & Farrout's No. 1 Thompson, NE SE Sec. 31-31-8	Machine.
Shawver et al's No. 1 Oldham, NW SE Sec 23-32-3	Drlg. 1,885 ft.
DICKINSON COUNTY	
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Rig.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17 13-4	Drlg. 630 ft.
DOUGLAS COUNTY	
Jenkins & Scott's No. 1 Haden, SE NW Sec. 10-12-17	Shut down 50 ft.
ELLIS COUNTY	
Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w	Drlg. 1,000 ft.
Mid-West Exploration's No. 36 Berens, C SE NW Sec. 12-13-16w	Drlg. 3,100 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w	Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w	Fishing 2,555 ft.
ELLSWORTH COUNTY	
Tatlock et al's No. 1 Sackem, C SW SE Sec. 25-17-9w	Shut down 675 ft.
The Texas Company's No. 1 Sherman, NE SW Sec. 16-17-6w	Drlg. 3,100 ft.

(Continued on Page 98)

Hobbs Pool Again Extended for Mile

New Operation on Fort Morgan Anticline, Eastern Colorado. Pilot Butte Dome Well, Fremont County, Wyoming, Still Blowing, Now 50,000,000 Feet

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Oct. 21.—The Hobbs Pool in Lea County, New Mexico, continues to show up favorably and the Ohio Oil Co.'s No. 1 State, which will extend the proven area a mile to the south and west, is drilling into the lime at 4,035 feet with more than 1,800 feet of oil in the hole. The Walker Oil Corp.'s No. 1 Terry, which extended the pool a mile to the south a few weeks ago, averaged 584 bbls. a day over a four-day period when drilled a little deeper. Present spacing of wells indicates that locations will be made one to each 10 acres in the Hobbs and San Simion districts while a plan for drilling in the center of forties is being adopted in the Jal district.

One gas well and two dry holes were the results in three Colorado completions, one of the latter being the Midwest Refining Co.'s Chimney Creek test in Routt County. At least one new operation in eastern Colorado, on the Fort Morgan anticline, is expected to get under way within 30 days. A test is being started on the Fish Creek structure in Routt County, and the Mountain Fuel Supply Co. has made some new locations in northern Moffat County.

The Kinney-Coastal Oil Co.'s gasser on the Pilot Butte Dome in Fremont County, Wyoming, is still blowing and apparently has increased its flow to more than 50,000,000 feet. The Texas Production Co. is abandoning its Skelton Dome test in Hot Springs County, and a test to the Madison lime is to be drilled on the Kaycee structure in Johnson County.

NEW MEXICO

The Hobbs Pool in Lea County, New Mexico, is being extended another mile toward the southwest in the Ohio Oil Co.'s No. 1 State, NE SE SW Section 9-19-38, which is showing for a producer. The 6⅝-inch casing was cemented at 4,002 feet and shortly after the plug was drilled out shows shows of oil made their appearance. At 4,025 feet it had about 1,800 feet of oil in the hole. Drilling ahead was in progress at 4,034 feet at last reports and another pay was expected shortly. This well is a mile southwest of the Midwest Refining Co.'s No. 1 State, the discovery well, and a little more than a mile west of the Walker Oil Corp.'s No. 1 Terry, NW SW SE Section 10-19-38. The last named well was deepened from 4,175 feet, where it averaged 410 bbls., to 4,184 feet; the production increased to an average of 584 bbls. over a four-day period. It has been pinched in to 100 bbls. The Midwest Refining Co.'s No. 24 State, NE SE SW Section 10-19-38, an offset on the west to the Walker well, commenced spudding on October 7 and is bottomed at 292 feet in red rock nd running the 15½-inch casing. The same company's No. 13 Terry, SE NE SW Section 10-19-38, one location north of its No. 24 State, and one location west of the Shell Petroleum Corp.'s No. 1 Thorpe, a location, is rigging up. The Shell Petroleum Corp.'s No. 1 Thorpe, SW NW SE Section 10-19-38, is building rig, and the Walker Oil Corp.'s No. 2 Terry, SW SW SE Section 10-19-38, one location south of its No. 1 Terry, is moving in. The wells in this area are being spaced on the basis of one to 10 acres. The Humble Oil & Refining Co.'s No. 1 Bowers, C NE SE Section 30-18-38, 3 miles northwest of the nearest producer, after making 372 bbls. in four days from a total depth of 3,404 feet, pulled the tubing and is being deepened. It is drilling at 3,618 feet in anhydrite and had another oil and gas show at 3,534 feet. The Shell Petroleum Corp.'s No. 1 Terry, SE SW NE Section 22-19-38, is bottomed at 3,294 feet in lime and milling on casing steel. Cecil Bordages' No. 1 Hughes, C S half Section 27-19-38, reported temporarily abandoned last March at 4,012 feet, is preparing to resume. It was reported having 500 feet of oil in the hole, but the 8¼-inch had parted at 2,485 feet, part of which subsequently was swedged out.

San Simion District

In the San Simion district in Lea County, some confusion in describing the location of wells is encountered on account of the north tier of sections in the township being 1½ miles long. The north two-thirds of the sections are divided into lots, each lot comprising 40 acres, except that Lots 1 to 4, inclusive, are about 38 acres each. The lots are numbered from 1 to 16, No. 1 being in the northeast corner and No. 16 in the southeast corner of the upper two-thirds. Cranfill & Reynolds' No. 1-B State, around which there is the greatest activity, is in the NE cor. Lot 9, Section 2-21-33. This would be equivalent to the northeast corner of the section if the section was only a mile long, but as the surveys run, there are two tiers of lots in the section north of the well. The way locations are being made around this well it looks as if at least three wells will be drilled in each block, Cranfill & Reynolds having three operations in Lot 9, which others will be called upon to offset. This firm's No. 2-B State, NW cor. Lot 9, commenced spudding on October 2 and is bottomed at 499 feet in red rock and running the 15½-inch, and its No. 3-B State, SW cor. Lot 9, Section 2-21-33, has rig up. The Amerada Petroleum Corp.'s No. 1 State, SW cor., Lot 7, Section 1-21-33, is rigging up, and Snowden & McSweeny's No. 1 State, NW cor. SW Section 1-21-33, is rigging up. The Continental Oil Co.'s No. 1 State, NW cor. Lot 12, Section 1-21-33, is drilling water well. The Texas Production Co.'s three locations in these two sections are all rigs and are located as follows: No. 1-B State, 2,311 feet from north line and 330 feet from west line, Section 1; No. 1-A State, 2,311 feet from north line and 330 feet from east line, Section 2; and No. 2-A State, 2,311 feet from north line and 990 feet from east line. The Empire Gas & Fuel Co.'s No. 3-B State, NE SE Section 5-21-35, is drilling at 2,900 feet in anhydrite, and C. E. Reynolds and others' No. 1 Merchant, SE cor. NE Section 15-22-34, is drilling at 3,945 feet in lime.

Jal District

In the Jal district in Lea County, the plan of spotting wells in the center of 40-acre blocks is being adopted by the operators. The two recent locations in that area to follow this plan are the Empire Gas & Fuel Co.'s No. 1 Lindley, C NE SE Section 14-25-36, which is building rig, and the Humble Oil & Refining Co.'s No. 2-A Lindley, C SW SW Section 13-25-36, rigging up. The Continental Oil Co.'s No. 1 McCallister, SW cor. SE Section 24-26-36, is averaging 40 bbls. on the swab after plugging back to 3,255 feet to shut off sulphur water. The casing did not entirely shut off the water. The Magnolia Petroleum Co.'s No. 1 Lindley, SE cor. NE Section 26-25-36, is still fishing for joints of the 10-inch which dropped when the string parted. Cranfill & Reynolds' No. 1 Cushing, SW SE NW Section 23-24-36, set and cemented the 10-inch on bottom at 1,260 feet, and is waiting.

The Empire Gas & Fuel Co.'s No. 1 Closson, NE NW SE Section 6-22-36, Eunice district, which gauged 110,000,000 feet of gas at 3,570 feet, is drilling deeper after mudding and cementing off the flow and is bottomed at 3,590 feet in lime and preparing to run the 6⅝-inch. The Continental Oil Co.'s No. 1 William Meyer, SW cor. NW Section 28-22-36, which killed a flow of 35,000,000 feet of gas at 3,257 feet to drill deeper, had 3,000,000 feet of new gas at 3,350-60 feet, and tested 20,000,000 feet at 3,375 feet. It is drilling at 3,397 feet. The same company's No. 1 A. E. Meyers, NE SW SW Section 17-21-36, is drilling at 3,362 feet in brown lime, and the Gypsy Oil Co.'s No. 1 Mantern, SW cor. SE Section 24-21-36, is drilling at 4,142 feet and flowing an average of 1,000 bbls of sulphur water per day. The Penn Oil Co.'s No. 1 State, CWL NW NE NE Section 21-19-36, is drilling at 3,200 feet after bottoming the salt at 3,125 feet. It topped the salt at 2,165 feet and the elevation is 3,859 feet. A. D. Morton and others' No. 1 State, C NW Section 29-11-38, Tatum district, is bottomed at 1,715 feet and cleaning out to run the 10-inch, and Buell & Hagen's No. 1 State, C NE Section 33-11-35, is drilling at 3,700 feet. The Barnsdall Oil Corp.'s No. 1 Bronson, SE cor. Section 28-16-38, Lovington district, commenced spudding on October 3 and is shut down at 230 feet in the red beds. The Texas Pacific Coal & Oil Co.'s No. 2 State, NW cor. SW Section 21-23-36, Ochca district, is bottomed at 3,690 feet in lime and milling on a piece of pipe. It had a show of dry gas at 3,684 feet. The Maljamar Oil & Gas Co.'s No. 2 Baish, NE cor. SW Section 21-17-32, Caprock district, is drilling at 3,900 feet in gray lime. It had an oil show at 3,838 feet and another gas show at 3,878 feet. The estimated total volume of gas is 2,000,000 feet.

Eddy County

In Eddy County, there was very little news outside of routine operations. The Grayburg Oil Co.'s No. 2 Keely, C SE NE Section 24-17-29, West Maljamar district, is drilling at 2,630 feet and had a show of oil at 2,449 feet and more gas at 2,510 feet. Naylor and others' No. 2 Danciger, NW cor. SW Section 18-17-31, is drilling at 1,350 feet and Etz Brothers' No. 1 Etz, C SE SE Section 13-16-30, is drilling at 2,435 feet and preparing to set the 8¼-inch. Leonard & Levers' No. 1 Levers, NW cor. SE Section 21-17-29, is drilling at 690 feet, where it bottomed the salt, and Lockhart and others' No. 1 Parke, SE cor. Section 16-17-30, is drilling at 2,440 feet. It had 500,000 feet of gas at 1,800 feet. The Lockhart Oil Co.'s No. 1 McCallister, C NW Section 23-26-30, is drilling at 1,800 feet.

In De Baca County, the Transcontinental Oil Co.'s No. 1 McWhorter, SW NW Section 6-3s-22, is drilling at 4,641 feet in sandy lime.

There is comparatively little activity in the northwestern part of the state at this time, most of the drilling wells being shut down.

UTAH

The town of Vernal, in Uintah County, Utah, now has natural gas following the completion of an 8-mile line from the Ashley Valley Dome to the town and the laying of mains by Paul Stock and Ray Phebus.

The Continental Oil Co.'s No. 1 Boundary Butte, Section 22-43-22, San Juan County, is shut down at 5,570 feet waiting for casing. The gas pressure is so heavy that not more than a few feet of hole could be made a day and it was decided to run a string of casing to shut off the gas before trying to drill deeper. The Cisco Springs Syndicate's No. 1 Moss, SE cor. SW Section 9-20-23, Cisco Springs district, is sidetracking at 1,985 feet, total depth. The hole is believed to be bottomed just off the Dakota. The Utah Southern Oil Co.'s No. 1 King, Section 13-23-20, Salt Valley Dome, Grand County, is bottomed at 3,829 feet and sidetracking pipe at 2,500 feet. The location for the offset to the discovery well on Cane Creek which is to be drilled by the Colorado River Oil Syndicate, is CWL NW NE NE Section 6-25-21. The Leonora Mining & Milling Co.'s No. 1 Rozel, Section 9-8n-7w, Box Elder County, is shut down at 2,650 feet in dark shale, and the Utah-Pennsylvania Oil Co.'s No. 1 Penrose, Section 3-10-4w, Box Elder County, is shut down at 3,100 feet.

COLORADO

Three completions in Colorado were reported, the only producer being the Helium company's No. 1 Van Vleet, SW cor. NW Section 1-30s-60, Model Dome, Las Animas County, which cut the pay at 959-994 feet and made 500,000 feet of gas. The Continental Oil Co.'s No. 1 McIntyre, NE NE Section 2-19-70, Canon City district, was dry and abandoned at 2,455 feet, and the Midwest Refining Co.'s No. 10 Barmettlor & Clayton, NW NE NW Section 4-7n-86, Chimney Creek Dome, Ruott County, is being abandoned at 1,717 feet in the Sundance sand. The top of the sand was at 1,640 feet. It had approximately 2,000,000 feet of noninflammable gas in the Frontier at 868 feet, and water in the Dakota.

A new operation is being started on the Wellington Dome, in Larimer County, by the Ball Oil Co. in its No. 1 Ball, NE cor. NW Section 18-9n-68, is a little more than one-fourth of a mile west of the nearest producer. The company has a lease on the east half NW of the section from the Ball brothers of Pierce, Colo., who formed the company to put down four wells. The cellar is being dug for No. 1. This ground was under lease to the Union Oil Co. of California when it operated the field prior to selling out to the Continental Oil Co. The location was made by C. T. Lupton of Denver, and is within the closing contour. This is the only operation on the structure by any concern other than the Continental Oil Co. The Continental is operating one string of tools, its No. 4 Scott, NE SE Section 6-9n-68, which is drilling at 2,865 feet.

Fort Morgan Anticline

It looks as if the long-rumored test on the Fort Morgan anticline in Morgan County, northeastern Colorado, will materialize at an early date, though no official announcement has yet been made. It will be recalled that Dr. Julian Sears of the United States Geological Survey, called attention to this structure in 1924 and a report on it subsequently was published. Dr. F. M. Van Tuyl of the Colorado School of Mines, gathered leases on a solid block covering the structure a year or more ago and these were turned to the Reiter-Foster Oil Co. This concern, it is reported, made a deal with the Indian Territory Illuminating Oil Co. and the Osage Oil Co. and at frequent intervals reports of a rig being moved to location have been circulated and as often denied. However, it is understood certain leases lapse unless drilling is begun by November 15, and that the parties have notified the lessors they intend to start drilling by that time. The block is in Townships 1 and 2n-57w. The Indian Territory and Osage companies have done considerable geophysical surveying in eastern Colorado and have taken leases in several areas. A typical lease is in Section 17-5n-47, in Yuma County, which

runs for 10 years and provides for a rental of 50 cents an acre, three-fourths interest being in the Indian Territory company and a one-fourth interest in the Osage company. The Midwest Refining Co., the Gypsy Oil Co., the Humble Oil & Refining Co. and several others have been making surveys in eastern Colorado and some have taken leases. None of the wildcats in eastern Colorado shows any important changes from recent reports.

In Washington County, M. T. Smith & Sons' No. 1 Middlemist, SW SE Section 14-4s-56, is drilling at around 625 feet. Progress is slow as the water lines are being buried in preparation for winter drilling and casing moved to location. This is to be a 4,500-foot test to the Dakota. Nettie M. Slatt's No. 1 Hills, SE cor. Section 27-3s-64, Adams County, is drilling at 700 feet and carrying the 12½-inch. It has cut several thin water sands and a 25-foot vein of coal. Some shows of oil and gas in shale are reported at close to the present depth. The McDeb Drilling Co.'s No. 1 Fitzsimmons, NE Section 7-4s-66, Arapahoe County, is drilling at 4,115 feet with the upper water shut off with the 8¼-inch at 3,906 feet. Shows of oil and gas in the shale are reported at present depth. These shows have continued for the past 200 feet.

Pueblo County

In Pueblo County, the Beulah Dome Syndicate's No. 1 Hedland, NW SW Section 7-23-67, Beulah Dome, is drilling at 817 feet after running casing to shut off water. The hole is through the Dakota and Morrison and supposedly close to a sand expected in the red beds.

In Las Animas County, the Helium company's No. 1 Keith, NW cor. Section 4-29-60, Thatcher Dome, is a location. Material is being moved in.

In Fremont County, the Continental Oil Co.'s No. 1 Giovanni, SW NW Section 1-19-70, Canon City district, is a location.

The Transcontinental Oil Co.'s No. 1 Glade, Section 30-41-16, Dolores County, southwestern part of the state, is reported to have cleared hole of tools which delayed drilling at 3,995 feet for nearly a year, and to be making new hole at 4,025 feet.

In Rio Blanco County, the White Eagle Oil & Refining Co.'s No. 1-A Fordham, NW SW Section 9-2s-96, Piceance Creek, where the rig was destroyed by fire a few weeks ago when gas became ignited at a depth of 2,815 feet, is building a new road and expects to be moving in new rig the latter part of this week. The Texas Production Co.'s No. 1 Potter, NE SW Section 30-2n-96, White River structure, is shut down for boiler repairs at 4,737 feet.

In Moffat County, Thomas McLaughlin and others' No. 1 Williams, NW SW Section 2-3n-92, Iles area, has succeeded in recovering tools and is running the 4¾-inch at a total depth of 4,232 feet. It is believed to be 40 to 60 feet off the objective Sundance. The McCormick Oil Co.'s No. 1-A Sales, SE SE Section 28-4n-92, Iles Dome, is shut down at 3,160 feet. The Texas Production Co.'s No. 1 Berlin, SW NE Section 19-12n-100, Bartram Dome, is drilling at 1,810 feet. It is reported to have shown some water below the flow of 50,000,000 feet of gas which was cased off with the 10-inch at 1,630 feet.

Routt County

A new operation for Routt County is reported in George A. Gillespie and others' No. 1 Omholt, NW SW Section 29-4n-87, on the Fish Creek structure. The Alliance Oil Co.'s rig is being moved from the Iles Field to the location. The well has been spotted about three-fourths of a mile from a well drilled several years ago by the Twenty Mile Oil & Gas Co. which was abandoned at 1,720 feet without testing the Morrison and Sundance. Several wells drilled in the Williams Park district had shows of oil and gas.

In Routt County, the Texas Production Co.'s No. 3 Carstarphen, NE NW Section 5-6n-86, Tow Creek, is spudding at 230 feet.

In Jackson County, the Midwest Refining Co.'s No. 21-X Rich, SW NW Section 9-6n-80, Buffalo Creek, is drilling at 2,985 feet in shale with the 10-inch cemented at 2,975 feet, and the Producers & Refiners Corp.'s No. 1 Hendershot, SE NE Section 2-6n-81, Pole Mountain, is drilling at 2,885 feet in limeshells with hole full of water.

The Mountain Fuel Supply Co., which is in charge of the producing of gas for the new pipe line into Utah, is starting its No. 1 Musser, C NE Section 5-11n-97, on the Powder Wash structure in Moffat County, 12 to 15 miles east of the Hiawatha Dome. This will be the first well drilled on the structure and will start in the Tertiary. The same company is building rig for its No. 2 Florence Wilson, C NE NE Section 22-12-100, on the Hiawatha Dome. It is located one-fourth mile northeast of No. 1 Wilson, the discovery well drilled in 1926 by the Somir Petroleum Co., now controlled by the Mountain Fuel Supply Co., and half a mile north of No. 1 Kuykendall. The first well came in for 58,000,000 feet a day and the second for 37,000,000 feet.

WYOMING

The Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW Section 22-3n-1w, on the Pilot Butte Dome in Fremont County, Wyoming, which blew in unexpectedly as a gas well on October 9, has apparently increased its flow to more than 50,000,000 feet of gas per day. The well is still blowing wild and it is impossible to obtain samples or to measure the gas. The valve on top of the 8¼-inch pipe was torn away when the well drilled itself in and new connections will have to be installed before it can be brought under control. The equipment is now being moved in, the derrick has been torn down and moved away and all the debris removed. Whether this operation opens a new gas field, or will bring in oil is not yet apparent. Considerable oil is being sprayed with the gas, but this may come from an upper horizon that had been shot and tested just a few days before the accident. The total depth is 3,367 feet and the gas is believed coming from the Muddy sand.

The Skelton Dome test of the Texas Production Co. in its No. 1, NE NW SW Section 23-45-100, Hot Springs County, is being plugged and abandoned at a total depth of 3,802 feet. This well was started about a year ago. The structure, not previously tested, is partly covered with the Wasatch, of Tertiary age. The hole was through the Wall Creek sands, which carried water, at 2,490 feet, and through the Muddy of the Dakota series, at 3,365 feet. It probably stopped in the Sundance of Permian age.

In Hot Springs County, the Ohio Oil Co.'s No. 1 Smith, Section 9-46-99, Walker Dome, is drilling at 405 feet, and the Midwest Refining Co.'s No. 8 Wagonhound, NW SE Section 6-44-98, is bottomed at 1,165 feet and running the 12½-inch.

In Big Horn County, the Ohio Oil Co.'s No. 1 Union Gas, NE NE Section 22-56-97, Byron Dome, is drilling at 3,913 feet and the Producers & Refiners Corp.'s No. 3, NW NW Section 24-56-98, Garland Dome, is drilling at 4,220 feet in sand and making considerable gas.

Natrona County

In Natrona County, the Fargo Oil Co.'s No. 1-A, SW NW Section 2-33-83, Poison Spider, is running casing at 1,526 feet, and the All-States Oil Co.'s No. 3, SE cor. Section 36-37-82, North Casper Creek, set casing at 2,560 feet preparatory to drilling in.

C. L. Sackett and others have contracted with Roy Tarrant for a test on the Kaycee structure in Johnson County, to the Madison lime. The location is SE SE Section 4-43-82, same section upon which these interests drilled a 500-foot well in 1928. The surface formation is the Dakota. The Madison is expected at 2,500 to 3,000 feet.

In Uinta County, the California Co.'s No. 1 Union Pacific, NE NW Section 7-17-116, Muddy Creek, is bottomed at 4,365 feet and reaming from 4,289 to 4,330 feet.

In Sweetwater County, the Mountain Fuel Supply Co.'s No. 1 Hay, NE cor. Section 26-17-104, South Baxter Basin, is bottomed at 3,265 feet and running the 8⅝-inch, and its No. 1 Murphy, NE NE Section 26-17-104, is underreaming at 3,415 feet. The same company's No. 1 Cappers, SW NE Section 2-19-104, North Baxter Basin, is drilling at 1,860 feet, and its No. 1 Union Pacific, Section 13-19-104, is rigging up. The Mountain Fuel Supply Co.'s No. 1 Tucker, NW SE Section 18-13-99, Alkali Creek, is drilling at 2,995 feet, and its No. 2 Humphreys, Section 10-12-101, Canon Creek, is building rig.

In Lincoln County the Midwest Refining Co.'s No. 1 Little Grays River, SE Section 25-37-117, is drilling at 1,698 feet in sand and gravel.

Carbon County

In Carbon County, the Midwest Refining Co.'s No. 31, SW cor. SE Section 1-18-78, Dutton Creek, is bottomed at 1,400 feet in gray shale and is running the 15½-inch. The Red Feather Oil Co.'s No. 1, SW SW Section 35-13-92, Baggs structure, is bottomed at 2,014 feet and sidetracking a joint of 8¼-inch casing. It is showing some water. This well is still in the Wasatch formation of Tertiary age. At 1,005 feet it cemented off about 5,000,000 feet of gas. The Producers & Refiners' No. 3, Section 28-21-86, Grenville Dome, is bottomed at 870 feet and is ripping the 6¼-inch, and its No. 2, SE NW Section 34-26-88, Mahoney Dome, is drilling at 3,685 feet in the red beds.

In Park County, the Ohio Oil Co.'s No. 1 Burlington, Section 21-53-101, Shoshone Dome, is drilling at 1,997 feet after changing over to rotary, and the California Exploration Co.'s No. 2 Pitchfork, NW NE Section 14-48-102, is fishing for bailer at 2,274 feet. The Midwest Refining Co.'s No. 1 Rosenberg, NE cor. Section 26-58-98, Frannie Dome, is drilling at 2,744 feet in lime. On the Oregon Basin Dome, the Ohio Oil Co.'s No. 2 Sonners, Account 2, NE cor. Section 8-51-100, is drilling out cement at 3,593 feet, and the Texas Production Co.'s No. 1 Sonners, NW cor. Section 29-51-100, is running 15½-inch after spudding to 80 feet.

In Niobrara County, the Argo Oil Co.'s No. 7 Wehopeso, SW NW Section 19-38-60, Mule Creek, is bottomed at 1,940 feet and underreaming the 6¼-inch.

In Weston County, the Wyoming Drilling Syndicate's No. 1 Howard Dome, NE cor. Section 15-44-64, is reported to have been shot at a total depth of 4,950 feet and to have shown some oil and gas but not in commercial quantities. It probably will be abandoned.

MONTANA

The Carroll well drilled near Roundup

(Continued on Page 131)

NEW ACTIVITY IN RED COULEE FIELD; VANALTA WELL 60 TO 80 BBLS. DAILY

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Oct. 19.—In the border district of Alberta, much new activity is likely in the Red Coulee Field west of Coutts. Vanalta Oils' No. 1, SW, Section 4-1-16w4, is now definitely in production. The well has been pumping since October 9, and is delivering crude to the Maple Leaf Refinery at Coutts. In an early production test the well made around 3.6 bbls. an hour, some oil being lost owing to gas pressure; it has since been making between 60 and 80 bbls. a day on the pump without lowering the crude in the hole. It is a 31 to 32 gravity crude, and brings around $2 a barrel. There is a fairly good prairie trail 6 miles to the Coutts refinery, and production will be trucked till further development justifies a pipe line. Two 250-bbl. tanks were erected at the well, and a third is being put up.

Completion of the Vanalta producer marks the opening of the first normal crude oil field in Alberta, as distinguished from the crude naphthas and light crudes of the Turner Valley Field and the heavy crudes of Skiff, Wainwright and Ribstone. Vanalta's No. 1 is the second test to be drilled on the Canadian end of the Red Coulee structure, a previous test some years ago by Imperial Oil, Ltd., getting a fair show of a similar grade of crude and later being abandoned owing to water. Vanalta's No. 1 was 184 feet higher on the structure than the Imperial well. Several locations have been made by other companies, and these are now reported going ahead with development.

Vanata's No. 1 apparently secured its production in a stray sand at 2,470 feet, after encountering a gas flow, estimated at 3,600,000 feet, at 2,390 feet. The test was drilled only 7 feet into the Vanalta sand. Additional production is thought possible in the Ellis, which is a little deeper.

Vanalta's No. 1 was drilled on 320 acres subleased by Vanalta Oils, Ltd., from Alberta Pacific Consolidated Oils, Ltd., of Calgary, on a one-eighth royalty basis. Alberta Pacific Consolidated holds 2,560 acres in practically one block surrounding the discovery well, part of this being already subleased and 1,280 acres held outright. Commonwealth Petroleums, Ltd., of Calgary, holds 7,680 acres on the Milk River Dome to the north. Vanalta's No. 1 was located following a series of 10 structure tests put down by Alberta Pacific Consolidated on its acreage. The test took 48 days actual drilling with 19 days running casing and fishing. The cost was approximately $28,000; but it is expected as the formations become better known through more extensive drilling that costs will be cut in half.

New Work

Vanalta Oils' No. 2 will be started at once 400 feet west of No. 1, and will be drilled into the Ellis sands, which are between 125 and 150 feet lower than the bottom of No. 1. On the west side of the field, Hol-Gar Petroleum Co.'s No. 1, LSD 1, Section 11-1-17w4, has derrick up, Machinery on the ground and water pipes laid, and will spud inside of 30 days. Ko-Tops Oils' No. 1, SE, Section 2-1-17w4, is practically rigged up. On the Montana end of the Structure Monalta Oil Co.'s No. 2, southeast of Vanalta's No. 1, is reported nearing the pay. Neil McQueen and associates are reporter to have filed on considerable Red Coulee acreage south of the international boundary. Vanalta Oils, Ltd., will drill at least two additional tests on its acreage; and it is reported that Alberta Pacific Consolidated will do some drilling. Caledonia Oil Co. of Calgary has located its No. 1 test approximately 2 miles west of Vanalta's No. 1, in LSD 10, Section 6-1-16w4. This company was organized some time ago and holds acreage in a number of potential oil fields in Alberta. Officers are W. G. Heeley, president; J. W. Townsend, vice president and managing director; J. A. Hanlon, secretary-treasurer; C. E. Meadows, and P. H. Dunne, directors.

Geological Features

The Red Coulee structure was reported on some time ago by Dr. T. B. Williams, geologist, who outlined the more important geological features as follows:

"The Red Creek structure has been known favorably for a number of years, but had never been adequately tested. A mantle of glacial debris and more recent soil in places of a thickness reported to be up to 40 feet overlies nearly the whole surface, and rock outcrops are few, making the work of the geologist difficult. Sections were measured wherever possible and barometric observations taken. This information was supplemented by such

(Continued on Page 113)

Darst Area Has 4,000 Barrel Well

Magnolia Petroleum Co.'s No. 1 Appling, a Big Well, Is 6 Miles Southwest of Bruner Field. Wildcat Completions a Feature

By B. D Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Oct. 21.—Feature of the week in Southwest Texas is the Magnolia Petroleum Co.'s No. 1 Appling in the James Hodges Survey, Guadalupe County, which drilled out the plug at 2,535 feet last Friday night and bailed Saturday morning and came in producing at the rate of 4,000 bbls. a day. It set casing at 2,527 feet. It is in the Taylor marl formation and acts very much as the Penn Oil Co.'s No. 1 Manford, located 1½ miles to the northeast.

The Magnolia Petroleum Co.'s test on the Appling lease is in the Darst Creek area. The discovery well and one other, both drilled by The Texas Company in the Jacob Darst Survey and a little north of the Guadalupe River, are about 4 miles southwest of the Magnolia well, R. R. Penn's No. 1 Manford is 1½ miles northeast. The Bruner Field is about 6 miles northeast. They are all more or less in line with each other.

Elevation of the Magnolia test is 469 feet and total depth 2,527 feet to the pay and the Penn well elevation 442 feet and 2,418 feet to top of pay, making the subsea depth of the Magnolia well 2,058 feet and the Penn well 1,976 feet.

Wildcats Feature of Week

Proven fields of Southwest Texas offered little of interest and wildcatting attracted practically all the attention. There were some interesting completions in the Laredo territory where Killam-Duggan's No. 8 Cuellar in the second sand in the oil pool east of the Jennings gas field in Zapata County came in flowing about 600 bbls. a day. This is the eighth test to that sand and is the biggest producer yet completed there. Two completions in the gas area in Webb County just north of the Mag-Cole oil pool, another gas well completed by the Humble Oil & Refining Co. on the Kohler ranch and a 75-bbl. well by the Magnolia Petroleum Co. in the Schoolfield-O'Byrne Pool, constitute the total of producers completed in that field.

A fresh water well in Zapata County drilled by Paul Hill on the Vela land in the El Grullo Grant, was about as important as anything that happened in the Laredo district last week. It is a couple of miles north of the Charco Redondo shallow pool. Fresh water is very scarce in that county and the water is nearly as valuable as oil but the importance of this well is more from the geologic standpoint. The nearest encounter of fresh water north of that is at a point about 9 or 10 miles and a little east of the the Paul Hill well in the eastern part of the Villa Grant. Thus it is thought quite possible that a geologic marker has been found and a line of fresh water to the west and a line of possible oil production on the east. The Alworth Pool is a little east of the fresh water to the north and the Charco Redondo Pool south of the Paul Hill well is a little to the east of the line from one fresh-water point to the other. Hill's well is producing water at about 1,010 feet.

Wildcat features of the week include the showing of gas in F. P. Zoch's No. 1 Kauffmann in Goliad County, about 7 miles east and a little north of the Mission Drilling Co.'s No. 2 Ray in Bee County which opened up a new gas field a few months ago at about 2,900 feet. Zoch topped the gas at 2,913 feet. It is about 5 miles east and a little north of the Mission Drilling Co.'s No. 4 Ray that had considerable gas and oil at around 4,000 feet. As this was written the process of setting casing in the Zoch well and getting ready for a test had not been completed but the test will likely be made this week.

The Pettus Pool

The Pettus Pool is still a pool of only one well, the No. 2 Ray which was completed at 2,890 feet for about 30,000,000 feet of gas with 1,255 pounds rock pressure. The Mission Drilling Co. No. 3 Ray is 3 miles east and it failed to make a gas well at a depth corresponding to production in the No. 2 and got considerable gas and oil at around 4,000 feet. No. 4 Ray is a little northwest of No. 2 and got some gas at about 2,700 feet but drilled deeper and is now at 3,285 feet. This whole country has been getting a good deal of attention and with the showing of gas in Zoch's test is taking on new interest.

Northwest Brooks County

Another territory getting attention is in northwestern Brooks County where the Houston Oil Co. as recently reported got a big gas well at about 4,115 feet. The gas from this well is so wet that a stick held in it is at once covered with oil. Surface geology down in that territory tells very little and hence major companies and independents are leasing everything available in all directions from the Houston Oil Co. gasser. Leases are held in big blocks. Magnolia owns a block immediately to the north. Southern Crude Oil has taken a block, irregular in shape, lying to the east and south. Texas has a block lying south and west. Humble Oil & Refining Co., Atlantic Producing Co., Sun Oil Co. and others have blocks south. Southern Crude Oil and Dixie Oil Co. have about 18,000 acres. T. B. Slick has a block of 17,000 acres, 12 miles northeast of the Houston Oil Co. well. The well is about 18 miles west of the Falfurrias salt dome.

Both the Pettus area in Bee and Goliad Counties and the Houston Oil Co.'s gasser on the Lasater ranch in Brooks County are 30 to 40 miles from any production, hence they are doubly important as adding entirely new territory to the producing column.

A feature to be watched in relation to the Houston Oil Co.'s No. 1 Lasater in northwestern Brooks County and the area around it is the work several miles south of it where the understanding is that geophysical instruments used by the Shell Petroleum Corp. and the Humble Oil & Refining Co. indicate even more favorable conditions than where the Houston Oil Co. well is located. Humble will join the Shell in the development of the tract.

Darst Creek Area

The Darst Creek area is now regarded as taking in everything in Guadalupe County or the territory east of San Antonio. The actual Darst Creek area includes the territory from the two Texas Company producing oil wells, one on the Wilson and one on the Anderson farm in the Jacob Darst Survey of Guadalupe County and extending northeast to the town of Luling. Drilling operations around the two Texas Company wells are still at a standstill with no definite information as to when operations will start.

In the Guadalupe County area T. H. Poole's No. 1 Behring (carried in some reports as No. 1 Priestly) and known as the Eugene Sights well, is right in the Edwards lime and getting ready to test. It topped the Edwards at 2,350 feet with an elevation of 443 feet. It and the Magnolia Petroleum Co.'s No. 1 Appling are the two wells in that part of the country that are centering the attention at this time.

In Western Guadalupe County Sinclair Oil & Gas Co.'s No. 1 Koepp was not looking quite as good when it got to the base of the chalk as it did when it topped the chalk. It seemed high as compared with No. 1 and is still high at the base of the chalk. It has a chance when it gets down to the Edwards lime, and the showings of oil in the Austin encourages the hope of oil in the Edwards lime.

Milam County

E. L. Chapman's No. 1 Johnson, north of Thorndale, in Milam County, has set casing at the top of the Buda lime and it filled up to 200 feet with oil. This was first known as the Michak & Clark No. 1 Johnson and at 1,946 feet it bailed quite a little oil and created the impression that a new pool had been discovered. There was a lot of mechanical trouble in handling the test. The test the past week by Chapman is the first real success since the oil was "hit" several months ago. It is now being rigged up to go on the pump and there is a chance that it will make enough oil to be classified as a commercial producer. The Lloyd Oil Corp.'s No. 1 H. H. Camp, one mile northwest of the No. 1 Johnson got hot sulphur water in the Edwards at a little below 2,100 feet and is being abandoned.

Northwest of San Antonio

There is a lot of geological work and leasing being done out through Edwards, Real, Val Verde and southern Sutton Counties, and in the territortory generally northwest of San Antonio, on the north side of the Balcones Fault and southwest of the Llano uplift. Big blocks were leased through that country several months to over a year ago but lately there has been new interest shown in that territory.

One thing that accounts for a great deal of the new leasing in territories not given much attention previous to that, is the large number of new oil men who have come to San Antonio and Southwest Texas. There are four times as many major companies in San Antonio and Southwest Texas now as there was a year ago and probably 8 to 10 times as many independents. They are scattering out and investigating new territory which the geologists on hand before had not had time to get to.

Humble Oil & Refining Co., Arkansas Natural Gas Co. and Transcontinental Oil Co. have each taken some acreage in Uvalde County, which in years past has not been given a great deal of attention.

PRODUCTION BY FIELDS

	Bbls.
Branyon	25
Bruner	37,654
Dale	420
Darst Creek	1,918
Gonzales	15
Kingsville	576
Larremore	166
Luling	10,175
Lytton Springs	881
McMullen County	45
Medina County	24
Mirando	9,848
Somerset	1,767
Yoast	1,120
Total	64,634
Week ending October 12	67,273
Decrease	2,639

Humble Field—Duval

Humble Oil & Refining Co.'s No. 33 Kohler, Survey 164, located 330 feet to north and west lines at 1,792 feet, waiting on tubing; No. 35 Kohler, Survey 165, located 330 feet south and east lines, derrick; No. 36 Kohler, Survey 424, located 330 feet to north and east lines, location. E. H. Buckner, Survey 162, located 495 feet south and west lines, derrick.

Schoolfield and O'Byrne Field

Magnolia Petroleum Co.'s No. 1 Lundell, Survey 60, located 450 feet north line, 150 feet east line, is drilling at 2,296 feet; No. 2 Lundell, Survey 60, 150 feet north and east line, location. Onyx Petroleum Co.'s No. 5 Krauter, Survey 250, Block 20, 150 feet from south and east lines, location. G. M. Partee's No. 6 Moody, Survey 60, 510 feet north line, 150 feet west line, location. Trapshooter Reilly Oil & Royalties Co.'s No. 2 Hahl, Survey 250, Block 27, 1,050 feet east line, 150 feet north line, location.

(Continued on Page 116)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

Week Ended October 19

ARANSAS COUNTY

United North & South Dev. Co.'s No. 1 Kate Edwards, Lewis Sur. ..... Drlg. 5,363 ft. in gumbo.

BASTROP COUNTY

Hadley Oil Co.'s No. 1 F. Kiel, R. H. Grimes Sur., 150 ft. E line, 1,000 ft. S line ..... Drlg. 3,400 ft.
E. W. Ogden's No. 1 Goodman ..... Standing 2,540 ft.
Pacific Oil & Gas Co.'s No. 1 Darnell & Bickler, Martha Baker Sur. ..... Shut down 2,415 ft. in Del Rio.

BEE COUNTY

Houston Oil Co.'s No. 1 McKinney, L. C. Randolph Sur. ..... Drlg. 1,275 ft. in tough gumbo.
Mission Drilling Co.'s No. 4 Ray in Geor. S. Kerr Survey .. Completed for 20,000,000 ft. gas 2,730 ft.; now drlg. 2,860 ft. in sand and shale.
Nichols et al's No. 2 Knobs in Jose Maria Uranga Survey, 600 feet to N. line, 2,000 feet to W. line ..... Drlg. 1,920 ft.

BEXAR COUNTY

Guy S. Fisher's No. 1 S. L. Beck, P. W. Hays Sur. ..... Drlg. 750 ft.; setting casing.
F. H. Eckert's No. 1 Sandemer, Sur. 52 ..... Drlg. 540 ft
Penn-Tex Oil Co.'s No. 1 Kate May, F. R Desauge Sur. No. 134 ..... Drlg. 925 ft.
Moore-Jauer's No. 1 Holly R. Ellison ..... Waiting on csg. 1,714 ft
Leon Oil Co.'s No. 1 Reiniger, 300 ft. E line, 215 ft. S line ..... Drlg. 1,350 ft.
E. G. Potter's No. 1 Watson, B. Martinez Sur. ..... Standing 2,509 ft. in Edwards.

BLANCO COUNTY

Ashe & Marshall's No. 1, 5 mi. S Johnson City ..... Erecting derrick.

BROOKS COUNTY

W. R. French's No. 7 R. Allen, Blk. 20, 1,320 ft. N and W lines ..... Drlg. 700 ft. (core test).

CALDWELL COUNTY

Morgan Bros.' No. 1 C. Malone, A. Floyd Sur. ..... Derrick.
Joe Bruner's No. 1 Neil, S. Morris Sur., 400 ft. NE and NW lines ..... Location.
Newmann & Speer, Inc.'s No. 1 McConnell, 900 ft. southwest of Texas Co.'s No. 1 Cude ..... Drlg. 165 ft.
Cranfill & Reynolds' No. 1 Berensdorf, A. Floyd Sur. .. Location.
W. H. Harper's No. 3 Thomas, J. Roberts Sur. ..... Set casing to test 1,724 ft.

DE WITT COUNTY

Gibson & McIntyre's No. 1 Wm. Van Roeder ..... Shut down 1,580 ft.
H. T. Ree's No. 1 Lunhardt ..... Drlg. water well.

(Continued on Page 150)

Gulf Coast Increase 16,000 Barrels

New Flush Production at Fannette and Humble and Good Completions at Barbers Hill and Refugio Responsible for Gain

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Oct. 21.—New flush production added by big wells at Fannette and Humble and by a number of good completions in several other fields, chiefly Barbers Hill and Refugio, coupled with substantial gains at Pierce Junction and other domes, all coming within the past two weeks, was reflected in Gulf Coast production figures the past week by an increase of more than 16,000 bbls. in the daily average. Although the general trend of coastal production for the entire year has been upward with the opening of new fields and the active development of new and deeper sand areas of some of the older domes, the increase the past week was the largest for any similar period for several years and boosted the total output to above 188,000 bbls., the highest figure since early 1926.

The increasing output of the coastal fields emphasized the fact that there is too much crude on hand in this area. With production greater than at any time in several years, stocks overly heavy, and with considerable wildcat development certain to be in store for this district during the coming six months, some apprehension is being expressed by operators as to the situation.

Fannette Dome

Fannette Dome of Jefferson County, which never has figured materially in coastal production, as previous wells there have been small or short-lived, averaged better than 3,800 bbls. daily for the week with the completion of two good wells, one of which has flowed steadily 3,600 bbls. daily since it was brought in early in the week. This well, Gulf Production Co.'s No. 12 Thomas, is by far the largest well yet completed at that dome and the manner in which it is holding up its steady flow in contrast to other wells definitely establishes the dome as an important producer. Not including workovers, this well was the fifth brought in at Fannette although production of the dome at the time of its completion was only about 200 bbls. daily. One other well, No. 2 Burrell, was large but it caught fire immediately on coming in and really never was successfully completed. It recently was abandoned. The No. 12 Thomas, in addition to being the best well, is the shallowest, being in a sand at approximately only 4,375 feet in comparison with the previous shallowest depth of 4,775 feet.

The completion of No. 12 Thomas was closely followed by that of No. 3 Burrell, which flowed initially at the rate of an estimated 1,400 bbls. of pipe line oil daily. This was a deep well being completed at a total depth of approximately 5,575 feet. It is 50 feet west of No. 2 Burrell, which blew in earlier in the year and caught fire, burning for over a week.

The large increase in Humble's production was due not to any wells brought in the past week, but to the continued prolific flow of The Texas Company's No. 269 Landslide, completed two weeks ago, and which flowed as high as 7,000 bbls. daily. The daily average output of Humble gained 4,737 bbls.

Lost Lake Dome

Pure Oil Co. added its third oil producer at Lost Lake Dome, northern Chambers County, but the well failed to hold up and made considerable water and b.s. This well, No. 1 Mays, flowed by heads 405 bbls. of oil with 18 per cent b.s. and water, the first 12 hours but after that the water increased and the oil dropped off and Saturday screen was being pulled. This well brought in last March as a 40,000,000-foot dry gasser, the first successful completion of the dome, from a sand at 2,071 feet, was deepened to 2,846 feet following the recent bringing in of Nos. 2 and 3 Mayes as good producers from that horizon.

Barbers Hill

At Barbers Hill, Chambers County, Humphreys Corp. completed its No. 5-H Kirby on the east side of the dome flowing initially at the rate of an estimated 1,150 bbls. from the deep sand at 5,130 feet. A second successful completion in this deep sand development was Superior Oil Corp.-Humphreys' No. 2 Hooks-Collier which flowed an estimated 1,000 bbls. at 5,134 feet. Two other deep wells were swabbing and showing for oil over the week end but their status has not been determined.

Refugio

Three oil wells and one gasser were brought in at Refugio which increased its daily average output to 10,865 bbls. Some possibility that the Gulf Coast Pipe Line Co. soon will be able to handle more oil through its 6-inch line to its Aransas Pass tank farm and terminal has been expressed with the loading out at its terminal of several tanks of Refugio crude purchased by the Doherty interests. Production at Refugio has been held in to the limit ever since it was opened over a year ago due to the limited facilities for handling the production. All storage in the field is full and the Gulf Coast Pipe Line Co., which operates the sole pipe line from the field, had its storage at Aransas Pass full to capacity soon after the line was put in operation several months ago, and recently was forced to cut its posted price. It is estimated that Refugio opened would make around 14,000 bbls. daily.

New Refugio wells added during the week were Saxet Oil Co.'s No. 1 Powers, flowing 1,200 bbls. net oil, 5 per cent water, on a half-inch choke, from sand at 3,688-3,700 feet; Morgan Oil Corp.'s No. 1 Fox heirs, flowing 420 bbls. pipe line oil on a three-eighths inch choke, sand 3,670-77 feet; W. L. Pearson interests' No. 1 Simpson, deepened from 3,664 feet to 3,681 feet, flowing 800 bbls. oil on a half-inch choke, and Houston Gulf Gas Co.'s No. 5 O'Brien, 70,000,000 feet of dry gas, 3,676 feet.

Other completions were: Vinton Petroleum Co.'s No. 1 Matilda Gray, Vinton, flowing 1,000 bbls. oil, 3,149 feet; Humble Oil & Refining Co. and Valley Oil Corp.'s No. 2 J. W. Wilson, Raccoon Bend, 295 bbls., 3,158 feet; the same operators' No. 4 Saunders, Raccoon Bend, 394 bbls., 3,495 feet; No. 5-A Walton, Raccoon Bend, 181 bbls., 3,290 feet, and No. 1 Graneau, Raccoon Bend, 17 bbls., 3,234 feet; Yount Lee Oil Co.'s No. 95 Gladys City and No. 25 fee, both Spindletop workovers, the former flowing 300 bbls. at 2,990 feet, and the latter 1,000 bbls. at 5,178 feet; and Jim McMurry's No. 3 Grace Addey, Goose Creek, an old well deepened, pumping 10 bbls. net oil 2,783 feet.

South of Houston

Of particular interest as far as the possibilities of new oil is concerned is Humble Oil & Refining Co.'s No. 2 Irvin at Mykawa, a torsion balance salt dome prospect or Miocene "high" discovered within the past year just south of Houston. No. 2 Irvin, completed last August as a 50,000,000-foot gasser, the past week began showing a little oil. The showing is very slight, being merely a little dripping caught in a trap set in the gas line to catch condensation. Houston Pipe Line Co. has been taking the gas from the well, the only producer so far completed at Mykawa, and delivering the gas to the Houston Natural Gas Co., one of the two distributing companies at Houston. The well at first had a pressure of 1,550 pounds, but this has been declining gradually and it has been the opinion of operators that when the pressure drops sufficiently the well will turn to oil. It has been dripping a light gasoline for some time and with the drop in pressure to around 900 pounds during the week the crude oil showing appeared. Samples of the oil were light green and tested 34.5 gravity.

Allen Dome

New interest is being centered in Allen Dome in the extreme southern part of Brazoria County with the completion during the week of a deal between Mills Bennett Production Co. and Shell Petroleum Corp., whereby the former acquires a half interest in the dome from the Shell and agrees to drill two deep tests. Allen Dome was discovered by Shell Petroleum Corp. geophysically several years ago. Since about a dozen tests, all deep, have been drilled and of these several have had small production. Only one well at present is producing, pumping from 9 to 13 bbls. daily. One well was completed for an estimated 700 bbls. daily, but did not hold up. Mills Bennett Production Co. already has made location for the first of its two deep tests. This will be No. 1 Allen, which is approximately 260 feet northeast of Shell's No. 1 Allen Bernard.

Daily Average Production

Daily average production of coastal fields for the week ending October 19 was:

Texas	
Allen	9
Barbers Hill	23,519
Batson	1,273
Big Creek	4,455
Blue Ridge	2,483
Brenham	200
Boling	1,364
Clay Creek	1,950
Damon Mound	492
DeWalt	11,410
Fannette	3,816
Goose Creek	5,609
High Island	1,765
Hull	10,808
Humble	11,255
Jasper County	10
Lost Lake	713
Markham	390
Nash	500
Nor h Dayton	445
Orange	2,791
Orchard	84
Pierce Junction	11,298
Port Neches	1,735
Refugio	10,865
Raccoon Bend	8,646
Sheeks	500
Saratoga	1,004
Sour Lake	2,634
South Liberty-South Dayton	5,860
Spindletop	23,901
West Columbia	6,681
Total Texas Coast	158,265
Week ending October 12	143,024
Increase	15,241
South Louisiana	
Anse LaButte	50
Bayou Bouillon	120
Bayou Blue	23
Black Bayou	48
Dog Lake	20
Edgerly	683
Jennings	1,702
Hackberry	4,067
Lake Barre	791
Lake Pelto	114
Lockport	4,083
New Iberia	30
Port Barre	60
Sorrento	125
Starks	386
Sulphur	7,000
Sweet Lake	20
Vinton	4,366
Welsh	285
Total South Louisiana	23,973
Week ending October 12	23,115
Increase	858
Total Gulf Coast	182,238
Week ending October 12	166,139
Increase	16,099

New Salt Dome

The discovery of another new salt dome prospect in southern Louisiana was made known during the week with the acquisition by the Vacuum Oil Co. of a large block of acreage near Patterson in St. Mary Parish. This territory long has

(Continued on Page 148)

GULF COAST FIELDS AND WILDCATS

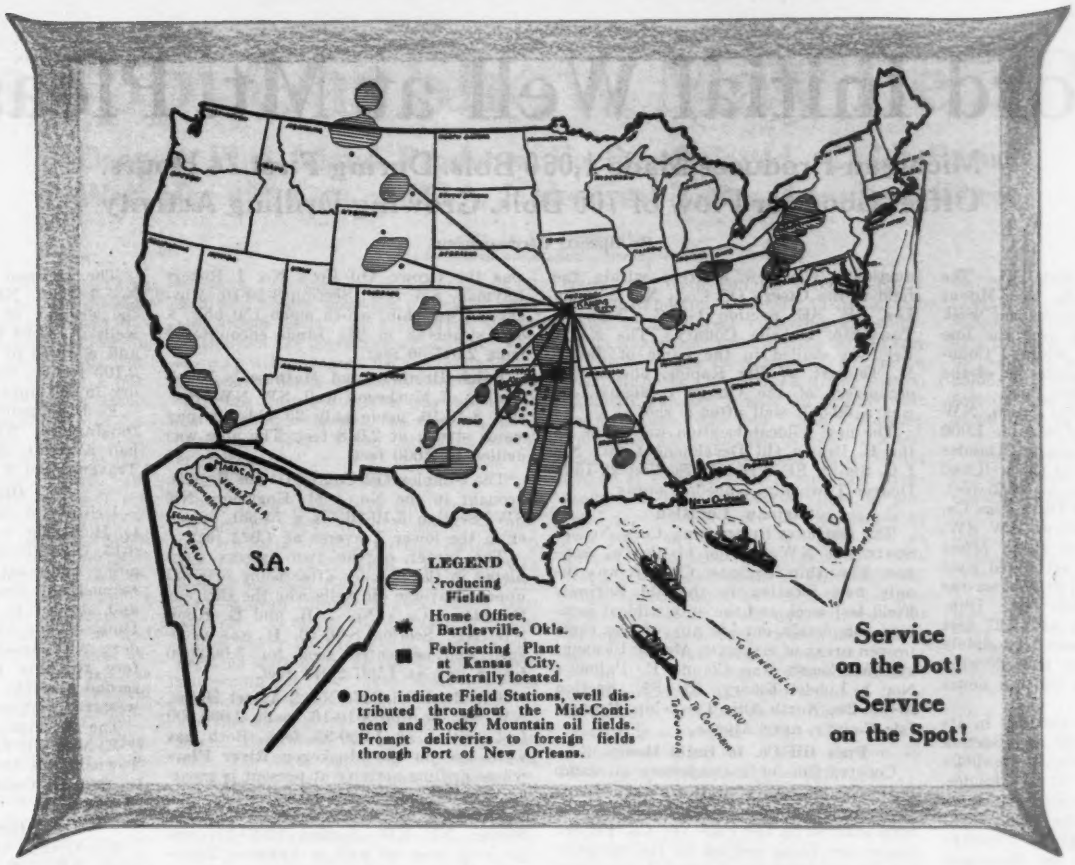
Week Ended October 19

BARBERS HILL—CHAMBERS COUNTY

Joe Bashara's No. 1 Tarbutton, east side	Reset screen 5,264 ft.; swabbing.
Mills Bennett Production Co.'s No. 1 Collier (southeast)	Fishing 5,071 ft.
Mills Bennett Production Co.'s No. 2 Barber, north side	Location.
Mills Bennett Production Co.'s No. 3 Smith (workover)	To pump 5,185 ft.
Mills Bennett Production Co.'s No. 4 Smith, east side	Location.
Mills Bennett Production Co.'s No. 3 Hammon-Armstrong (southeast)	Derrick.
Mills Bennett Production Co.'s No. 1 Wilburn (southeast)	Derrick.
Grayburg Oil Co.'s No. 1 Wilburn, southeast	Sand and shale showing oil 5,037 ft.; flowing by heads.
Gulf Prod. Co.'s No. 1 Wilburn	Drlg. gumbo and lime 2,698 ft.
Humphreys Corp.'s No. 3-A Kirby, north flank	Fishing 6,440 ft.
Humphreys Corp.'s No. 5-H Kirby, east side	Comp. flowing 1,150 bbls. pipe line oil 5,130 ft.
Humphreys Corp.'s No. 6-H Kirby east side	Drlg. lime 4,756 ft.
Humphreys Corp.'s No. 7-H Kirby, east side	Drlg. gumbo and lime 3,735 ft.
Humphreys Corp.'s No. 2-C Kirby	Drlg. shale and lime 3,517 ft.
Humphreys Corp.'s No. 6-B Kirby (workover)	Rig up to work over.
Humphreys Corp.'s No. 1 Higgins	Cap rock showing oil; set screen 841 ft.
D. B. McDaniels' No. 3 Woodward	Drlg. shale and lime 3,980 ft.
Rexal Oil Co.'s No. 3 McLean, east flank	Sidetracking.
Sinclair Oil & Gas Co.'s No. 1 McKinney (southeast)	Resetting screen 5,300 ft.
Sinclair Oil & Gas Co.'s No. 1 Wilburn (southeast)	Comp. flowing 500 bbls. oil 5,227 ft.
Sun Oil Co.'s No. 1 McKinney (southeast	To deepen.
Sun Oil Co.'s No. 2 McKinney (southeast)	Swabbing salt water and little oil.
Sun Oil Co.'s No. 1 Wilburn (southeast)	Cutting screen and liner.
Sun Oil Co.'s No. 2 Wilburn, southeast	Rig.
Sun Oil Co.'s No. 1 J. Wilburn	Drlg. lime 5,028 ft.
Superior Oil Corp.'s No. 2 Hooks-Collier, southeast	Comp. flowing 1,000 bbls. pipe line oil 5,134 ft.
The Texas Company's No. 1 Wilburn (southeast)	Drlg. sand and shale 4,634 ft.
The Texas Company's No. 2 Wilburn, southeast	Drlg. sand and shale 2,294 ft.
The Texas Company's No. 3 Wilburn, southeast	Drlg. hard lime 4,748 ft.
The Texas Company's No. 1 Lawrence	Drlg. rock 2,073 ft.
Yount Lee Oil Co.'s No. 8 Chambers, south	Coring sand 4,925 ft.
Yount Lee Oil Co.'s No. 9 Chambers, south	Drlg. sand 1,049 ft.
Yount Lee Oil Co.'s No. 1 Kirby, southeast	Drlg. shale 7,360 ft.
Yount Lee Oil Co.'s No. 3 Woodward (southeast)	Drlg. hard lime 4,952 ft.
Yount Lee Oil Co.'s No. 4 Woodward, southeast	Drlg. gumbo 1,604 ft.
Yount Lee Oil Co. No. 5 Woodward, southeast	Rig.

BOLING—FORT BEND AND WHARTON

Sun Oil Co.'s No. 9 E. C. Farmer	Drlg. cap rock 1,591 ft.


S.A.
LEGEND
Producing Fields
Home Office, Bartlesville, Okla.
Fabricating Plant at Kansas City. Centrally located.
● Dots indicate Field Stations, well distributed throughout the Mid-Continent and Rocky Mountain oil fields. Prompt deliveries to foreign fields through Port of New Orleans.
Service on the Dot!
Service on the Spot!

Service that *Equals* PERFECTION!

Our Vapor Pressure Tanks have reached "PERFECTION". But an oil man wants more than a good tank, for when he needs tanks, he needs them badly, and he requires *immediate—quick—thorough* service.

Keeping service in mind, B. S. & B. have built up an organization with a centralized Fabricating Plant, General and District Offices, and Distributing Points, well located throughout the Mid-Continent and Rocky Mountain oil fields. Our service even extends into Canada and South America.

With our fleet of trucks and service cars, with our fifty field stations, each carrying complete stocks, and with our own tank crews—men employed exclusively by us 100% of their time, we are able to give quick installation and a complete erecting service.

And better still, our service does not stop when the tank is erected!

B.S.&B. Perfection Vapor Pressure TANKS

These tanks are different from mere storage tanks—they not only hold the oil, but protect its valuable vapors, preventing evaporation loss, and maintaining wellhead gravity. By retaining the light fractions at 16 ounce pressure, which is the maximum pressure developed by sun rays on ordinarily quiet crude, 100% of the oil is kept and at no percentage loss of gravity.

The flange type construction, the segmental sloping deck, the B. S. & B. Thief Hole Pressure Vacuum Valve, and other factors allow for a strong tank with 16 ounce pressure, or a 4 ounce vacuum. A positive protection—*a faithful watchdog* for your oil. There are different sized tanks for all requirements!

[*We have an interesting story to tell you—interesting from $$ and ¢¢ standpoint. May we send a man (who is near you now) or a catalog? Address Dept. B-4.*]

EFFICIENT B S & B SERVICE DEPENDABLE

Our Watchword QUICK SERVICE

Black Sivalls & Bryson INC.

BARTLESVILLE - OKLAHOMA

B4

Record Initial Well at Mt. Pleasant

Michigan Producer Made 1,060 Bbls. During First 24 Hours. Offset Good for Flow of 700 Bbls. Growing Drilling Activity

By Special Correspondent

MUSKEGON, Mich., Oct. 21.—The record initial producer in the Mount Pleasant Field was brought in last week by the Pure Oil Co. just over the line into Greendale Township, Midland County, but about 1¼ miles northwest of the Pure's discovery well in the field.

The well was the No. 1-C Reem, NW SW, Section 7-14n-2w, and it made 1,060 bbls. during the first 24 hours. Dundee was topped at 3,550 feet and the well had been drilled in only 5 feet to 3,555 feet.

Two days later the Sias Oil & Gas Co. completed its No. 2 Carpenter, SW SW, Section 7-14n-2w, a direct south offset to No. 1-C Reem. It was estimated good for a daily flow of about 750 bbls. in the Dundee encountered at 3,551 feet. Dundee limestone was topped at 3,527 feet and the well had not been completely drilled in when production test showing a flow of 36 bbls. an hour for four hours was taken.

The Pure Oil Co. also brought in its No. 2-B State-Isabella, NE SE, Section 2-14n-3w, Chippewa Township, Isabella County, as a 650-bbl. well in the Dundee. It is ahead of present production north and west of the heart of the field.

Drilling activity in Mount Pleasant now far exceeds that in the Muskegon Field. Although drilling costs are much more and initial production is running considerably less than in Muskegon at its height the grade of oil obtained in the Dundee at Mount Pleasant is better and indications are the wells will be more long-lived.

Sustained Production

After two years of production the Pure company's No. 1 Root, NE SE, Section 18-14n-2w, Greendale Township, Midland County, is reported to be making about 40 bbls. a day, or as much as it made initially. It has been deepened some with a resulting spurt in flow but continues to be a good well.

No. 1 Gibson, the fourteenth of 33 wells completed in the field by the Pure company, last week was shot and stopped flowing entirely. Another shot started the flow again and the well is reported to be making 220 bbls. a day. It was an original 350-bbl. producer.

The Pure company now has 28 of the 50 completed oil wells in the field and about 75 per cent of the daily production of 8,000 bbls. The complete record of the field shows only nine dry holes of which five were drilled by the Pure company on outlying acreage. The proven field is now about 2 miles wide and 5 miles long with prospects it will extend northwest in Isabella County and southeast in Midland County. The Pure company holds leases on 100,000 acres in a block in and around the proven field controlling about 85 per cent of the acreage.

About 1,000,000 bbls. of oil already have been produced. Oil is 42 and 43 gravity paraffin base for which the Pure company, only pipe line operator in the field at present, is paying $1.70 per barrel at the wells. Oil is shipped to Great Lakes refineries by rail to Bay City and by boat on Lake Huron and Lake Erie from there.

Although no definite plans have been made by the Pure for erection of a refinery in the Mount Pleasant district it is possible that one might be started there within the next year if production continues to increase. The alternative, which is being considered by the Pure company is construction of a 40-mile pipe line to Bay City on Lake Huron.

Only one new location was made in the proven Mount Pleasant Field last week with one new wildcat location in Denver Township, northwest of the field and a considerable distance ahead of production. The new location within the field is the Otsego Oil Co.'s No. 2 Retta Lee, SW SE, Section 1-14-3, Chippewa Township, Isabella County. The No. 1 Lee was drilled in the name of James M. Taggart, of Big Rapids, one of the organizers of the Otsego company. It was a 50-bbl. well after a shot.

The new wildcat location was made by the E. Brown Oil Development Co., No. 1 C. Smith, SE NE NE, Section 22-15-3, Denver Township, Isabella County.

Saginaw Location

The Saginaw Prospecting Co.'s No. 74 Spatz, SW NW, Section 14-12n-4w, Saginaw Township, Saginaw County, was the only new location in the old Saginaw Field last week and the only wildcat location completely outside any of the three proven areas of Saginaw, Mount Pleasant and Muskegon was Claude F. Palmer's No. 1 Lobdell-Emery, SE SE, Section 26-35n-2w, North Allis Township, Presque Isle County, near Alpena.

Pure Oil Co. to Build Homes

Construction of a temporary oil camp near the discovery well in the Mount Pleasant Field of central Michigan has been started by the Pure Oil Co. Fifteen houses are being erected by the company for its employes on a tract 1 mile east and one-half mile south of the intersection of the Midland-Isabella County line in the heart of the field.

New Company Formed

Organization of the G-Lee-P Oil & Development Co., a new operator in the Mount Pleasant Field, was announced. The company holds leases on 370 acres in Denver Township, Isabella County, and Geneva Township, Midland County, north of the proven field. Officers of the company are: President, J. B. Gardner; vice president, Edgar Lee, of Midland; and secretary, Doctor Potter, Coleman. Drilling will be started on a lease in Geneva Township.

Four new oil wells and two new Dundee dry gassers were brought in last week in the declining Muskegon Field. Three new locations were made and one small edge producer in the Dundee brought in early this year was plugged as dry.

The largest new oil well of the week was the Crown Oil Co.'s No. 1 Robert Layman, SW NW, Section 8-10-16, Muskegon Township, which made 150 bbls. a day swabbing in pay sands encountered from 2,045-50 feet.

Balch Brothers and McIntosh's No. 3 County of Muskegon well, SW NW, Section 8-10-16, made only 35 bbls. in pay sands struck at 2,048 feet. The hole was drilled to 2,060 feet.

The Simplex Oil Co., of Grand Rapids, brought in the No. 1 M. Engeman, NE SW, Section 5-10-16, as a 75-bbl. pumper in the lower Traverse at 1,913 feet.

The larger of the two gassers completed in the Dundee after being original upper Traverse oil wells was the Citizens Petroleum Co.'s No. 2 B. and G. Kooi, SW NE, Section 8-10-16. It was deepened and estimated good for 3,000,000 feet a day at 1,997-2,014 feet.

The Reed Oil Co.'s No. 2 Albert Heinz, NW SE, Section 8-10-16, made 2,000,000 feet initial at 1,990-95 feet. Both gas wells are on the Muskegon River Flats where drilling activity at present is greater than anywhere else in the field.

The Sterling Oil Co.'s No. 8 Mathilda Shuler, NE NW, Section 12-10-17, was the only new oil well in Laketon Township. It made 50 bbls. initial at 2,060-66 feet.

The Buckeye Oil & Gas Co.'s No. 1 Gerritt Van Loo, NW SW, Section 11-10-17, Laketon Township, was plugged and abandoned at 2,062 feet.

The three new locations were: Central Gas & Oil Co.'s No. 3 John Joldersma, NE SW, Section 8-10-16; Van Buren Development Co.'s No. 1 Hubbel-Bascom-Leathy, SE SW, Section 3-10-16; and Witt and Wyant's No. 7 Alfred H. Fenner, NW SE, Section 11-10-17, Laketon Township.

After having encountered shows of gas and oil in the Traverse, two Sullivan Township wells are drilling to the Dundee as the deepest wildcats in Muskegon County.

Buchanan and Frye's No. 1 Fruitvale, SW SE, Section 6-12-16, Blue Lake Township, near Rochdale Inn, is the only other drilling wildcat in Muskegon County. It has reached about 1,000 feet.

The Herman Hanson Oil Syndicate's No. 1 Foot, NE NE, Section 8-9-15, is the deepest of the Sullivan Township wells at 2,240 feet. A good show of gas and a trace of oil were encountered at 2,105 feet in the lower Traverse. It was dry in the upper Traverse.

F. J. Johnston's No. 1 Johnston-Marston-Janicke, SW NW, Section 1-9-15, had a slight show of oil in the upper Traverse and is drilling below 1,950 feet.

Ottawa County

Drilling of the Dixie Oil Co.'s No. 1 G. H. Telder well, SW SW, Section 35-6-15, Olive Township, Ottawa County, is going more rapidly since the hole was reamed out through the upper Traverse and started to the lower Traverse and Dundee. The hole was about 1,800 feet deep with another 100 feet to drill before reaching the lower Traverse, the second possible chance for production in western Michigan.

The Michigan Petroleum Co.'s No. 1 C. E. Moe, SE SE, Section 6-9-13, Chester Township, is the only other drilling well in Ottawa County. It is 2 miles east of Ravenna.

Oceana County

The Oceana Oil Corp.'s No. 1 Vanderwaal, SW NE, Section 35-14-17, Selby Township, near New Era, is drilling at 2,780 feet, the deepest wildcat test in Oceana County. It was dry in the Traverse and Dundee.

C. J. Sipple's No. 1 Iroquois Oil Co., SE NW, Section 35-13-17, Grant Township, north of Rockdale Inn, Fruitville, is still fishing at 2,220 feet where it was about ready to be drilled into the Dundee.

Two wells, one in Golden Township and the other in Colfax Township, the northeast corner of the county, are getting started. Two others, one at Hesperia and the other near Silver Lake, Golden Township, are shut down.

Newaygo County

Shooting of Uhl and Sarver's No. 1 David E. Uhl, NW SE, Section 20-13-12, Everett Township, is being temporarily plugged. It was shot for a show of gas in the Dundee at about 3,165 feet. The well had been drilled to 3,500 feet and was plugged back to shoot.

The Newaygo Gas & Oil Co.'s No. 1 A. J. Bates, NE SE, Section 12-13-13, Sherman Township, deepest test in Newaygo County, has resumed drilling at about 3,800 feet.

The Hervey Syndicate's No. 1 Atwood, NE NE, Section 31-12-13, Garfield Township, which was dry in the upper Traverse, is to be drilled to the Dundee. It was dry at 2,224 feet. The other Hervey Syndicate wildcat on the Baumgartner lease, NE NE, Section 33-12-13, also Garfield Township, has set casing through the Marshall and is drilling toward the Traverse.

Drilling has not yet been resumed on the Pennsylvania Oil & Gas Co.'s No. 1 Miller, SE SE, Section 33-14-11, Goodwell Township, where drillers have had considerable trouble shutting off water at about 1,400 feet.

The Atlantic Exploration Co.'s No. 1 William Brydges, NW SW, Section 12-11-13, Ashland Township, is driving pipe at 300 feet.

It is reported operations are to be resumed on the Hesperia Petroleum Co.'s No. 1 Jones, NE SE, Section 20-14-14, Denver Township, shut down at 2,300 feet for several weeks.

Kent County

Officials of the Mid-Continent Development Co. announced they had struck a show of oil and gas in No. 1 George Earley in Home Acres south of Grand Rapids at about 3,000 feet. It is located NW NW, Section 19-6-11, Paris Town-

(Continued on Page 117)

THREE ZWOLLE WELLS EXCEPTIONAL IN INCREASING THEIR PRODUCTION

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Oct. 21.—Oil wells are extremely individualistic in behavior, as any operator of experience knows, and are as temperamental as a woman, yet it is the rule, and an almost inviolate one, that a well does its best at the start and then declines either rapidly or slowly, depending upon sand conditions, gas or hydrostatic pressures, and other factors. No matter how spectacularly it may come in it is the almost invariable rule that it will diminish in flow, need boosting by air or gas lift and then settle down as a pumper; or, if a pumper at the start, it will slowly and surely diminish and ultimately fall below production that will pay the lifting costs. But, although so rare as to be almost unheard of, exceptions to this rule are known. The Big Lake, Texas, well is phenomenal for two reasons: First, that it is the deepest commercial well, and, second, that it increased instead of decreased with age. So unusual was its behavior that it created considerable interest and comment.

And now comes the Zwolle district of Sabine Parish with not one but three wells that have set the pace beyond any records we have as to sustained and increased flow. The first of these, the discovery well, R. L. Gay, trustee, No. 2 Bowman-Hicks, in the SW cor. NE SE Section 14-7-14, found its pay at a total depth of 2,130 feet. It came in Thanksgiving Day, 1928, and was flowing into storage December 1 at the rate of 50 bbls. daily of 44 gravity oil free of water. On October 13, 1929, it was still flowing and had passed 125 bbls. per day, having had tubing pulled and been cleaned but twice in this length of time.

The second completion, No. 3 Bowman-Hicks, is even more phenomenal in its behavior. It was completed last May at 2,178 feet as a southwest offset to the discovery and looked doubtful as a producer during its first few days. In fact, its average during May and June was but 11.77 bbls. and it also produced a small amount of very salty brine. But since then it has improved, steadily increasing its oil flow until it has passed 115 bbls. per day and is still increasing while the amount of water has as steadily de-

(Continued on Page 117)

Mississippi Gas Show May Be a Pocket

Deepest Pine Island Producer Further Delayed. Caddo Parish Well Has 900 Feet of Oil in Hole. East Texas Completes Three

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Oct. 21.—Three wells, widely scattered, had this division expecting something during the week but neither has shown any definite conclusions. A possible exception is Home Oil Producing Co.'s No. 1 Rainey, Section 13-5-1e, Rankin County, Mississippi, which appears likely to be in the discard so far as measuring up to expectations is concerned. A week ago this well made a good gas show but since then has developed apparently convincing evidence that it ran into a pocket. Immediately after the show, mud was pumped in, and the last reports were that it was still begin pumped in. It looks as though the bit broke through and that the bottom is a cavity of undeterminable extent.

Magnolia Petroleum Co.'s No. 1 McCook & Hibbler, Section 22-21-10, Webster Parish, which cored 9 feet of saturated sand from 6,949-58 feet, got through a pinched-in "collapsed" joint of casing around 3,600 feet only to run into another situation of the same sort lower down, and setting of 5¾-inch pipe to test the sand that yielded this almost weeping core is correspondingly delayed. Lots of folks are paying attention mostly to Sid Onyett's test three-quarters of a mile east of nearest production in the Dixie district of Caddo Parish but the Magnolia well is by far the more important. It is the deepest well in footage ever drilled in this division and is the first to show any signs of oil below 3,600 feet—the depest Pine Island production. It is apparent that, if this second case of collapsed 8⅛-inch casing can be swedged through and a pay string cemented, Magnolia will have a well. After that there will of necessity be much 6,000-7,000-foot drilling in Cotton Valley. And that will likely be followed by exploration to corresponding depths throughout this division. For it is a commonly accepted idea that the future of North Louisiana-South Arkansas as oil territory hinges upon the success of mile and deeper wells. As a gas area its potentialities are beginning to be fairly well known; it has passed its shallow and intermediate depth oil experience and has only this deeper stuff to rely upon. It has yet to go through the Coastal, California and West Texas deep sand areas' experience.

Caddo Parish

The third member of this week's trio, Onyett, trustee's No. 1 Dickson, in Section 10-19-14, Caddo Parish, claiming 9 feet of sand, total depth 2,138 feet, was hooked up into flow tanks after it had made a head through the christmas tree. And that, so far, is the end of it. Pumped full of heavy mud to hold it in while connections were being rigged, it bailed down and would not flow. Now observers seem to think the oil has been nicely sealed off and there is a great discussion what to do next. Meanwhile the hole is 900 feet in oil. The total depth is somewhat less than the average Dixie well. Meanwhile, T. C. Adams, Panola County, Texas, gas royalty owner, and associates, have made location and are rigging up a quarter mile east of Onyett on No. 1 Dickson in the SW cor. NW Section 10-19-14, and Fitzsimmons Drilling Co. is rigging up 150 yards north on No. 1 Sentell in the W half NW SW SW of the same section—a one-acre lease. Eylers Oil Co. has rig up for No. 1 Sentell a half-mile north of Onyett and Fitzsimmons in the NE cor. SW Section 9-19-14.

Gulf Refining Co.'s No. 2 Hunter, in Section 17-19-14, started pumping 12 bbls. oil from 2,446 feet and Standard Oil Co.'s No. 3 School Board, Section 16-19-14, did 200 bbls. natural through 2½-inch tubing from 2,453 feet. The Texas Company's No. 2 Hunter, Section 9-19-14, made 17 bbls. initial from 2,440 feet. Other Caddo completions were: C. H. French' No. 7 Muslow, Section 31-21-15, pumping 10 bbls. from 1,670 feet; Gulf Refining Co.'s No. 19-A Levee Board, Section 34-21-16, Oil City district, 40 bbls. from 1,825 feet; Simplex Oil Co.'s No. 7 Youree-Randolph, Section 13-20-15, salt water at 2,326 feet (standing as temporarily abandoned after testing 50,000 feet of gas and water since May 16); Standish Oil & Refining Co.'s No. 12 Allen, Section 23-22-15, pumping 5 bbls. oil and 200 salt water from 1,066 feet, and Woodley Petroleum Co.'s No. B-2 Knight, a workover in Section 11-15-12, in the southeast corner of Caddo Parish across Red River from Elm Grove, 1,000,000 feet of gas, total depth 2,474 feet. It was completed two years ago making 4,000,000 feet of gas at 1,935 feet. Old River Oil Co.'s No. 1 Sibley, Section 15-19-14, which will effect an extension farther east than Onyett and others' well but will be well within the southern extremity of production in the Dixie district, had 100 feet of oil in the hole from 2,456 feet, drilled through broken lime and shale to 2,494 feet and is reaming to set liner. R. W. Norton is arranging to set 3,700 feet of 9-inch casing on No. 1 Hill, Section 33-23-16, prepared to go to 5,500 feet.

Carterville District

Nemours Corp. decided not to deepen No. 1 Kilgore, Section 31-23-11, Carterville district of Bossier Parish, completed in March last year by other operators as a 37,000,000-foot gasser at 3,062 feet. Nell & Lanier's No. 1 Biedenharn, Section 23-21-14, reported last week showing more or less gas with a spray of oil from 1,015 feet, also turned out a false alarm. It is still carried on scout reports but from past experience in that area it is scarcely likely to develop anything at either of the known horizons in the Caddo-Bossier section. But this has not discouraged other wildcatters it seems for Gordon Collins and associates have taken 1,000 acres in Section 5, 7 and 18-19-13, 3 or 4 miles east, across Red River from Dixie production, for a well to go 2,600 feet which is to be begun before November 15. H. L. Morgan's No. 1 Wetherbee, Section 21-19-11, second hole on a deep test in Bellevue, cemented 6⅝-inch casing at 1,854 feet to test a gas show he got in the first hole at that depth. Nemours Corp.'s change of heart with respect to its No. 1 Kilgore is met by Sales & Walker's plan to deepen their No. 1 Kilgore in the same section. It was a gasser at 3,063 feet and since deepening to 3,164 feet has set a string of 4½-inch to test an oil show in 42 feet of sand.

Production Declines

The average daily production of the various pools in this district during the past week follows:

	Bbls.
Louisiana	
Caddo, light	13,690
Caddo, heavy	3,065
Homer	3,790
Haynesville	4,825
DeSoto-Red River	3,155
Elm Grove	535
Bellevue	650
Cotton Valley	2,520
Urania	5,760
Pleasant Hill	1,050
Sarepta	400
Total	39,440
Arkansas	
El Dorado	4,380
Smackover, light	5,785
Smackover, heavy	45,730
Stephens	1,000
Neveda County	1,050
Lisbon	1,170
Champagnolle	5,610
Bradley	90
Total	64,815
Both states	104,255
Last week	108,635
Decrease	4,380

Monroe-Richland

There wasn't much news from the Monroe-Richland gas district. Austin & Jordan's No. 1 Chauvin, Section 62-18-3, Ouachita County, was a 1,168,000-foot gasser with 1,000 pounds rock pressure from 2,216 feet and Bahan & Bahan had two wells in Union Parish; No. 1 Parks, Section 2-20-3, did 5,235,000 feet at 1,000 pounds from 2,146 feet, and No. 3 Peake, Section 17-20-4, did 9,200,000 feet at 750 pounds from 2,180 feet. Magnolia Petroleum Co. got 103 joints of salt water on drill stem test of No. 2 Margie Hatch in Section 2-15-5 in the southwest corner

(Continued on Page 113)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks:
Sales & Walker's No. 1 Kilgore, 325 ft. W, 200 ft. N, SE cor. NW NE, Sec. 31-23-11	Cmtd. 4½-in. 3,150 ft; 42-ft. sand showing oil; T.D. 3,164 ft; O. W.D.D.; completed Mar. 8, 1928; 3,500,000 ft. gas 7-ft. sand 3,063 ft.

BOSSIER PARISH—BELLEVUE

H. L. Morgan et als' No. 1 Wetherbee, 200 ft. S, 200 ft. W, NE cor. SW SE, Sec. 21-19-11	Cmtd. 6⅝-in. 1,854 ft.

BOSSIER PARISH—ELM GROVE

Ark.-La. P. L. Co.'s No. 6-B Van Hoose, 2,815 ft. S, 2,650 ft. W, NE cor., Sec. 36-16-12	Tested dry 1,894 and 1,900 ft; estimated 1,000,000 ft. gas 1,917 ft; drlg. 2,320 ft.
La. G. & F. Co.'s No. 3 Skanhal, 660 ft. N, 660 ft. W, SE cor. SE SE, Sec. 14-17-12	Began drlg. Sept. 26; cmtd. 12½-in. 120 ft; 8-in. 842 ft.
Palmer Corp.'s No. 14-B Hodges, C E½ SW, Sec. 24-17-12. 24-17-12	Began drlg. Oct. 11; cmtd. 10-in. 198 ft; drlg. gas rock 952 ft.
Palmer Corp.'s No. 1 Johnson, C NE NE, Sec. 24-17-12	Began drlg. Oct. 11; cmtd. 12½-in. 126 ft; 9-in. 842 ft.
Palmer Corp.'s No. 1-A J. A. McDade, 2,310 ft. W, 660 ft. N, SE cor., Sec. 12-17-12	Location.

CADDO PARISH—GREENWOOD

Calatex O. & G. Co.'s No. 1-A Agurs, 819 ft. S, 157 ft. E, NW cor. SW, Sec. 7-16-16	Rigging up.
Eastern Carbon Co.'s No. 1 Z. Abney, Sec. 8-17-16	Began drlg. Oct. 15.

CADDO PARISH—MOORINGSPORT

C. B. Moore's No. 1 Buckalew, 2,000 ft. N, 1,000 ft. W, SE cor., Sec. 30-20-15	Bailing to test; 120 ft. oil in hole; 12 ft. broken sand 2,300 ft; T.D. 2,304 ft.

CADDO PARISH—DIXIE

T. C. Adams et als' No. 1 Dickson, 990 ft. E, 330 ft. N, SW cor. NW, Sec. 10-19-14	Rigging up.
Eylers Oil & Gas Co.'s No. 1 Sentell, SW cor. NE, Sec. 9-19-14	Rigging up.
Fitzsimmons Drlg. Co.'s No. 1 Sentell, C W½ NW SW SW, Sec. 10-19-14	Rigging up.
Sam Gold's No. 3 Hunter, 660 ft. N, 660 ft. W, SE cor. SW NE, Sec. 17-19-14	Arranging core 2,380 ft.

(Continued on Page 149)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
BOSSIER PARISH

Company, farm and location—	Remarks:
Corbett et als' No. 1 Murff, SE cor. NE, Sec. 18-17-11	S. D. 990 ft.
Nell & Lanier's No. 1 Biedenharn, SE cor., Sec. 23-21-14	Bailing to test 1 ft. sand.; T.D. 1,015 ft.
G. D. Nesbit's No. 1 Burt, Sec. 20-19-13	Location.
Walker et als' No. 1 Antrim, NW cor. SE, Sec. 28-22-13	S.D. 3,021 ft.; made 57 ft. more hole; tested small show oil; arranging to deepen; T.D. 3,078 ft
Woodmansee et als' No. 1 Bollinger, SE cor. NE, Sec. 9-22-11	S.D. waiting orders 2,532 ft.

CADDO PARISH

D. C. R. Oil Co.'s No. 2 Oden, 892 ft. W, 264 ft. S, NE cor. NE NW, Sec. 20-19-14	S.O.; tested dry 2,445 ft.; S.D.; W O. 2,550 ft.
Haynes Bros.' No. 1 Oden, 1,650 ft. S., 330 ft. W, NE cor., Sec. 20-19-14	Cored sand showing S.W. 2,471 ft; S.D; W.O. 2,505 ft; may make deep test.
Lide et als' No. 1 Hunter, 300 ft. S, 200 ft. E, NW cor., Sec. 22-19-14	Cleaning out to reset liner and test 5½ ft. sand; T.D. 2,468 ft.
Lide et als' No. 1 Levee Board, 200 ft. S, 200 ft. W, NE cor., Sec. 24-19-15	Top red beds 2,300 ft; cored 2,300 ft; arranging D.S. test 2,405 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 22-22-16	S.D. 3,480 ft.
Old River Co.'s No. 1 Sibley, 300 ft. S, 300 ft. E, C, Sec. 15-19-14	Cmtd. 6-in. 2,424 ft.; sand 2,452-56 ft; s.arting liner to test; 150 ft. in hole; T.D. 2,494 ft.
S. T. Oynett, trustee's No. 1 Dixon, SW cor., Sec. 10-19-14	Cmtd. 6-in. 2,385 ft; 700 ft. oil in hole; swbd. to top of liner; wouldn't flow; well sealed by heavy mud; running sand pump and will wash; T.D. 2,405 ft.
I. N. Pharis, trustee's No. 1 Oden, NE cor. SE NE, Sec. 16-19-14	S.D. 2,280 ft.
Standard Oil Co.'s No. 2 School Land, 330 ft. S, 330 ft. E, NW cor., Sec. 16-19-14	Tested dry; show oil and gas 2,441 ft; drlg. 2,607 ft.
Planters Oil Co.'s No. 1 Pittman, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 23-19-14	Drlg. 1,750 ft.

(Continued on Page 92)

California Production Is Holding Up

Santa Fe Springs Fairly Stationary. Barnsdall and Rio Grande Get Good Well in Initial Tideland Drilling Project

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Oct. 19.—Daily production at Santa Fe Springs did not show any great change during the past week and no violent fluctuations are anticipated in the immediate future as it will be some time yet before the Clarke zone develops into a dominating position. The initial output of new wells chalked up during the past week was on about a par with the output shown by wells finished during the past month. The Shell Oil Co. headed the completion list with four wells. On the Slusher lease the company finished Nos. 16 and 18, the former flowing 3,090 bbls. of clean 33.7 gravity oil daily from 7,708 feet and the latter 3,275 bbls. per day from 7,921 feet. Nos. 22 and 23 on the Golay lease were good for 3,180 bbls. of clean 33.8 gravity oil and 3,215 bbls. of clean 34.1 gravity oil respectively. The former was completed at 7,835 feet, while the latter was bottomed at 7,845 feet. The Sunset Pacific Oil Co. successfully recompleted No. 2 Santa Fe flowing 3,800 bbls. of clean pipe line oil daily and this well, which suddenly stopped production early last week, has been very consistent since being returned to production.

The General Petroleum made up for lost time this week by completing four wells which showed an aggregate initial daily production of 4,383 bbls. The company started off the week by finishing No. 185-D Santa Fe, a new well flowing 1,275 bbls. daily from 6,940 feet and followed this up by bringing in No. 145-E Santa Fe, another new well doing 1,318 bbls. and 7,400,000 feet of wet gas daily from 6,950 feet. Both of these projects were completed in the O'Connell zone, the former well being finished with a 4¾-inch liner including 679 feet of perforated. No. 234 Santa Fe was successfully recompleted flowing 1,410 bbls. daily after being redrilled and deepened to 7,692 feet. This well was put on a preliminary production test last month but drilling was subsequently resumed when it only showed an initial at that time of 750 bbls. daily from 7,456 feet. On the Jalk property, the General Petroleum put No. 113 on a compressor after plugging back from 8,363 feet to 8,019 feet, but this project was only good for 380 bbls. daily.

The Union Oil Co. finished two wells during the past week, both of them being located on the Bell lease. No. 48, a new well, was brought in flowing 851 bbls. of clean 33.6 gravity oil daily from the O'Connell zone at 6,045 feet, while No. 32 was finished flowing 1,312 bbls. from 6,915 feet. O. J. Rohde, who successfully finished No. 3 York flowing 2,865 bbls. daily from 7,170 feet last week, has just followed this up by bringing in No. 1 York doing 1,040 bbls. per day from 7,201 feet. The Texas Co. recompleted well No. 8 on Mattern Lease No. 2 flowing 3,305 bbls. of unusually clean 33.4 gravity oil daily from 7,920 feet and should have several more potential producers on production shortly. The General Petroleum supplanted the Union as the largest single producer at Santa Fe Springs this week with a daily output of 45,000 bbls. The Union is next in line with 41,000 bbls., Standard with 35,000 bbls., The Texas Company with 26,000 bbls., Shell with 24,000 bbls. and George F. Getty with 19,500 bbls.

Elwood

The Barnsdall and Rio Grande successfully completed their initial tideland drilling project in the prolific Elwood Field of Santa Barbara County during the early part of the week and this new producer, Well No. 1 on permit No. 88, is flowing 4,200 bbls. of clean 37.9 gravity oil and 1,900,000 feet of wet gas daily from 3,477 feet. In addition to the production secured from this new well, the Barnsdall and Rio Grande increased their daily output 1,400 bbls. when No. 5 Bell Luton was retured to production following an arbitrary curtailment since August 5. The Barnsdall and Rio Grande are running four strings of tools in the Elwood Field at the present time and will probably augment this within the next few days as No. 9 Bell Luton is being rigged up for early spud. No. 8 on this lease, incidentally, should be listed for completion some time within the next week or 10 days as the crew is at present drilling ahead in the oil sand following a temporary suspension of several weeks' duration. Work is also progressing on tideland development and further work is anticipated. The Barnsdall and Rio Grande are drilling one well each on tideland drilling permits Nos. 94, 95 and 96, and are making preparations to undertake a second well on permit No. 88. The Bankline Oil Co. is making good footage in its No. 1 on tideland permit No. 89, and this well, together with the Elwood Exploration Co.'s No. 1 on drilling permit No. 90, should be completed in the near future. Caroline Spalding's No. 1 on drilling permit No. 93 may also be finished in the near future. C. J. Mahoney's No. 1 on drilling permit No. 91 was showing evidence of a considerable deviation from the vertical at 2,026 feet, necessitating a redrilling job in order to straighten the hole before going ahead. Tideland development at Elwood is of special significance as this work should substantially increase field production as it is generally admitted that a least 40 per cent of the Elwood structure is located out in the open ocean beyond mean high tide.

Midway-Sunset

Three wells were put on production in the Maricopa flats section of the Midway-Sunset Field this week, although two of them were really recompletions as both of these projects had already been on production having blown in prematurely without the oil string in the hole. These were No. 2 Weir of the Doyle Petroleum, which has been returned to production flowing 1,030 bbls. of unusually clean 23.1 gravity oil daily from 3,450 feet, and the Rio Grande Oil Co.'s No. 1 Havenstrite, which is flowing 4,050 bbls. daily from 3,351 feet. The North American's No. 2 Sunset, a new well, was completed during the early part of the week flowing 975 bbls. of 22.9 gravity oil daily from 3,090 feet. The substantial production and subsequently sustained output of new wells out in the Maricopa flats in the area adjacent to Section 8-11-23, has greatly stimulated drilling operations, and the consistent increase in daily production of the Midway-Sunset Field during the past few months can be attributed to this development work. There are 22 strings of tools under way in this particular area at the present time and a check indicates the probability of additional early completions by the Doyle Petroleum, Hancock Oil Co., North American Consolidated, Signal Oil & Gas Co., Standard, Wellington and Union Oil Co. The Barnsdall Oil Co. has just spudded in No. 1 Diggins in Section 17-11-23 and, while this is the company's first project in this particular locality, the lease was secured several months ago and has subsequently show a substantial appreciation.

Mount Poso

Production activities in the Mount Poso Field of Kern County are in full swing for the first time since the discovery of this field in 1926. Recent construction of pipe line facilities by the Union Oil Co. affords producers in this field an outlet for production and approximately 10,000 bbls. per day are being transported down to Kern River where delivery is made to the various producers for whom the oil is moved. The Shell Oil Co. tops the production list at Mount Poso with a daily output of approximately 4,000 bbls., followed by the General Petroleum with 3,000 bbls., the Petroleum Securities with 3,000 bbls., Union Oil Co. with 3,000 bbls., Pacific Western with 1,500 bbls., The Texas Company with 1,000 bbls. and the Signal Oil & Gas Co. with 900 bbls. Some of this oil is still shut in but preparations are being made to open up all wells with the result that Mount Poso may be doing 15,000 bbls. per day within the next 60 days. Several additional producers should be finished at Mount Poso during the next week or 10 days by the Union Oil Co., Pacific Western, Petro-

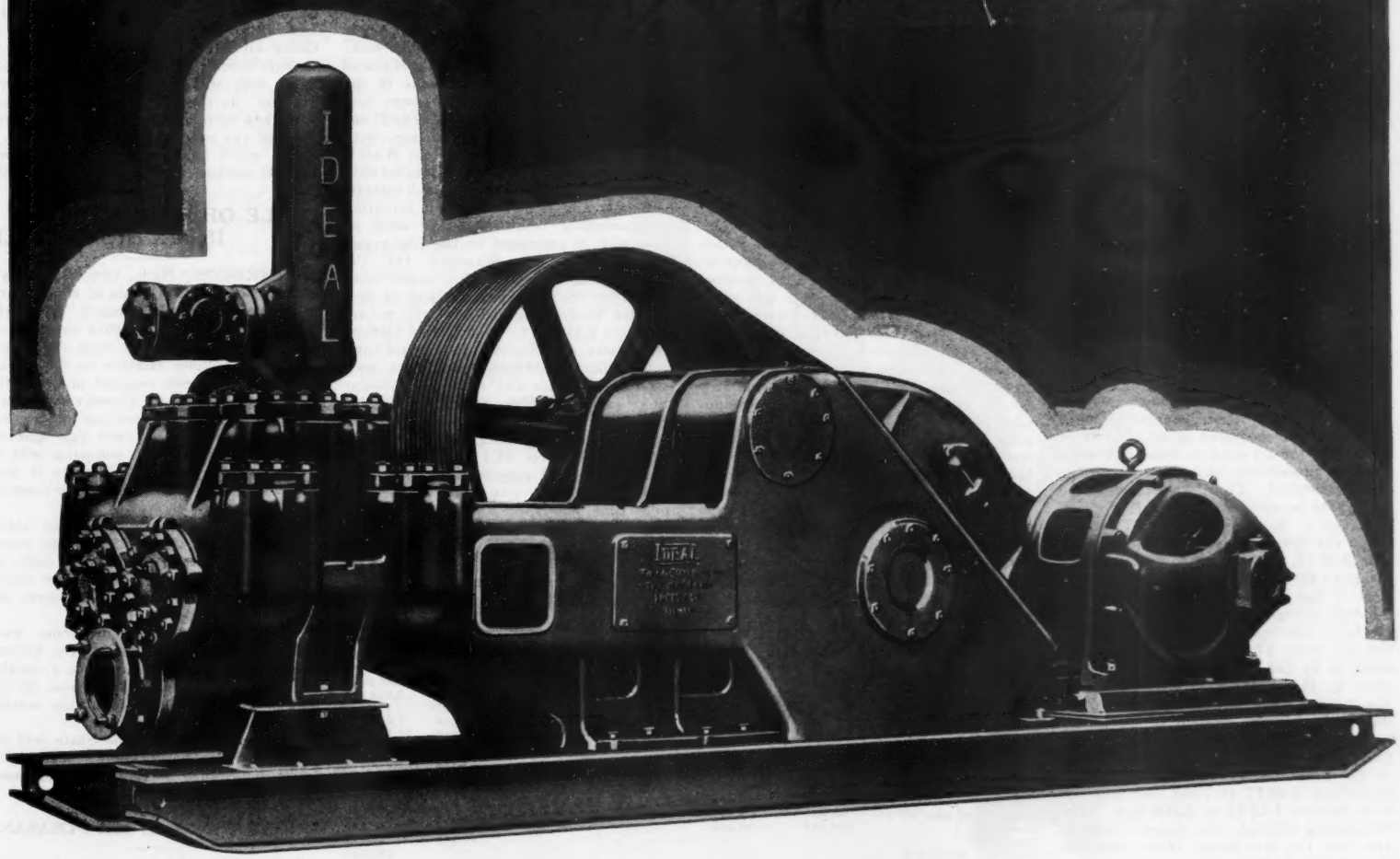
IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Union, No. 1 Buel Canyon, Santa Barbara Co.	X- 7-31	1,806	redrilling
Western Gulf, No. 2 Gaviota, Santa Barbara Co.	X- 5-33	3,156	oil sand
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	2,428	cleaning out
Standard, No. 1 Point Arguello, Santa Barbara Co.	35- 6-36	2,040	reaming
Gaviota Oil Co., No. 1 Lompoc, Santa Barbara Co.	9- 7-35	1,841	hd. sd. drilling
Calif. Oil Prop. No. 1 San Marcos, Santa Barbara Co.	3- 4-28	1,316	cemented
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	1,080	sespe, drilling
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas well—idle
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	880	sd. sh. drilling
Petroleum Securities, No. 1 Goleta, Santa Barbara Co.		5,280	br. sd. drilling
Standard, No. 1 Goleta, Santa Barbara Co.		...	grading
Tannehill, L. B., No. 1 Elwood, Santa Barbara Co.	24- 4-29	2,018	sd. sh. drilling
General Pet., No. 1 Capitan, Santa Barbara Co.	5- 4-30	1,368	190 bbls.
Standard, No. 1 County Farm, Santa Barbara Co.	11- 4-28	mtl.	building rig
System Oil Co., No. 1 Orcutt, Santa Barbara Co.	36-10-34	4,297	testing
Keystone Oil Co., No. 1 Santa Maria, Santa Barbara Co.	33-10-34	4,206	br. sh. drilling
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	20-10-35	3,185	br. sh. drilling
Keystone Oil Co., No. 1 Surf, Santa Barbara Co.	18- 7-35	2,996	abandoning
Channel Oil Co., Well No. 1, Santa Barbara Co.	29- 4-27	6,304	suspended
Channel Oil Co., No. 1 Fellowship, Santa Barbara Co.	29- 4-27	2,140	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	1,030	sd. sh. drilling
Gilmore Oil Co., No. 1 Gibraltar, Santa Barbara Co.	1- 5-28	mtl.	building rig
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	Rig	rigging up
Continental, No. 1 Carpenteria, Santa Barbara Co.	33- 4-25	4,130	gas well—idle
Continental, No. 2 Carpenteria, Santa Barbara Co.	33- 4-25	4,495	cleaning out
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,154	cement fish
American Oil Co., No. 1 Camarillo, Ventura Co.	33- 2-20	1,210	suspended
Smith & Finch, No. 1 Camarillo, Ventura Co.	5- 1-20	1,135	suspended
Boisa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	1,093	hd. sd. drilling
Associated, No. 1 Rincon, Ventura Co.	19- 4-24	mtl.	building rig
Miley, E. J., No. 2 Red Mountain, Ventura Co.	7- 3-23	1,870	hd. sd. drilling
Frank Oil Co., No. 1 Fillmore, Ventura Co.	35- 4-20	2,071	hd. sd. drilling
Continental, No. 1 Sulphur Mountain, Ventura Co.	21- 4-22	3,765	suspended
Continental, No. 2 Sulphur Mountain, Ventura Co.	22- 4-22	6,740	suspended
Continental, No. 3 Sulphur Mountain, Ventura Co.	21- 4-22	4,391	hd. sd. drilling
Lockwood Oil Co., Well No. 1, Ventura Co.	28- 8-21	630	hd. sd. drilling
Milham Expltn., No. 1-A Buttonwillow, Kern Co.	8-28-23	4,662	gas well—idle
Milham Expltn., No. 2 Buttonwillow, Kern Co.	8-28-23	2,730	gas well—idle
Milham Expltn., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	gas well—idle
Milham Expltn., No. 4 Buttonwillow, Kern Co.	6-28-23	2,670	gas well—idle
Milham Expltn., No. 5 Buttonwillow, Kern Co.	5-28-23	2,500	gas well—idle
Milham Expltn., No. 6 Buttonwillow, Kern Co.	8-28-23	2,676	gas well—idle
Milham Expltn., No. 7 Buttonwillow, Kern Co.	6-28-23	2,720	suspended
Milham Expltn., No. 8-A Buttonwillow, Kern Co.	8-28-23	2,673	gas well—idle
Milham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	4,912	hd. sd. drilling
Milham Expltn., No. 10 Buttonwillow, Kern Co.	8-28-23	2,672	suspended
Elmer Oil Co., No. 1 Shafter, Kern Co.	8-28-25	6,067	suspended
Elmer Oil Co., No. 1 Bena, Kern Co.	15-30-30	3,492	hd. sd. drilling
Elmer Oil Co., No. 1-A Rosedale, Kern Co.	33-29-26	5,150	sd. sh. drilling
General Pet., No. 1 Rosedale, Kern Co.	13-29-26	3,218	gr. sd. drilling
The Texas Company, No. 1 Edison, Kern Co.	23-29-29	2,216	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,104	br. sh. drilling
McVey, Max, No. 1 Jasmine, Kern Co.	23-25-27	mtl.	building rig
Heyd, Frank, No. 1 Edison, Kern Co.	26-29-28	...	material
Shell Oil Co., No. 1 Lerdo, Kern Co.	5-29-27	5,074	hd. sd. drilling
Union, No. 2 San Emidio, Kern Co.	5-10-21	3,666	reaming
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	2,386	sd. sh. drilling
Currency Pet. Co., No. 2 Jacalitos, Fresno Co.	14-21-14	354	cable tools
Hornaday & Huggins, No. 1 Kerman, Fresno Co.	32-14-18	4,916	fishing
Rio Grande Oil Co., No. 1 Kerman, Fresno Co.	14-13-17	320	sd. drilling
Shell Oil Co., No. 2 Westhaven, Fresno Co.	26-19-18	3,070	abandoned
Shell Oil Co., No. 4 Westhaven, Fresno Co.	17-19-19	3,835	abandoned
Cates Oil Co., No. 1 Joaquin Ridge, Fresno Co.	7-19-15	114	suspended
Oceanside Oil Co., No. 1 Krayenhagen, Fresno Co.	33-22-17	138	suspended
Petroleum Securities, No. 1 Huron, Fresno Co.	20-20-16	695	suspended
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	6,460	hd. sd. drilling
Pismo Dome Oil Co., No. 2 Pismo, San Luis Obispo Co.	5-32-13	830	sd. sh. drilling
Union, No. 1 Huasna, San Luis Obispo Co.	34-32-15	3,940	redrilling
Union, No. 1 North Huasna, San Luis Obispo Co.	12-32-14	4,570	br. sh. drilling
Midwest Refg. Co., No. 1 Huasna, San Luis Obispo Co.	34-31-15	2,212	pipe froze
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	cleaning out
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,414	br. sh. drilling
Latin American O. Co., No. 1 Shandon, San Luis Obispo Co.	31-27-15	3,692	sd. sh. drilling
Colusa Oil Co., Well No. 1, Colusa Co.	31-15- 4	640	hd. sd. drilling
North Counties Oil Co., Well No. 2, Humboldt Co.	36- 2- 1	2,205	suspended
Humboldt Oil Co., Well No. 1, Humboldt Co.	6- 2- 1	3,041	suspended
Applegate & Renshaw, Well No. 1, Merced Co.	24- 6-10	3,750	suspended
Kuhns, H. L., Well No. 1, Merced Co.	8-12-19	660	suspended
Foster & Hammil, Well No. 1, Alameda Co.	21- 3- 3	1,158	hd. sd. drilling
Producers Oil Co., No. 1 San Lucas, Monterey Co.	30-21- 9	...	material
Shell, No. 1 Dudley, Monterey Co.	15-22- 9	4,160	sd. sh. drilling
Chessher, H. B., No. 1 Dudley, Monterey Co.	8-22- 9	245	suspended
Union, No. 1, King City, Monterey Co.	8-22- 8	2,079	recemented
Standard, No. 1 King City, Monterey Co.	23-22- 7	1,812	br. sh. drilling
Continental, No. 1 Bradley, Monterey Co.	32-24-11	5,955	suspended
Brown, W., No. 1 Parkfield, Monterey Co.	15-23-14	500	suspended
Tuck Oil Co., No. 1 Los Gatos, Santa Clara Co.	15- 8- 1	852	suspended
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,200	sd. sh. drilling
Dudley Ridge Synd., No. 1 Tulare, Kings Co.	12-23-19	1,305	gas wl.-shut in
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	916	sd. sh. drilling
Porter, H. B., No. 1 Devils Den, Kings Co.	9-24-17	2,160	hd. sd. drilling
Getty, George F., No. 1 Button, Madera Co.	18-13-16	Rig	rigging up
Twin States Oil Co., No. 1 Soldani, Mendocino Co.	14-12- 7	848	redrilling
Elmer Oil Co., No. 1 County, San Joaquin Co.	6- 3- 9	...	location
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	1,540	sd. sh. drilling
White, Ray, No. 1 Pixley, Tulare Co.	8-23-26	1,701	sd. sh. drilling
Terminal Oil Co., No. 1 Tulare, Tulare Co.	29-20-25	Rig	rigging up

IDEAL

TYPE "B"

Power Driven Slush Pump



DESCRIPTIVE BULLETIN
No. 56 A
SENT ON REQUEST

THE
NATIONAL SUPPLY
COMPANIES

leum Securities and The Texas Company, and this will further increase the potential production of this field. Production activities are also getting under way in the Round Mountain Field of Kern County but no oil has yet been run out of this district due to the fact that construction work on pipe line facilities has not yet been completed. It is quite probable, however, that the Union Oil Co.'s new line out of this area will be running oil within the next week or two. The Round Mountain Field, like Mount Poso, has been more or less isolated since its discover because of the absence of pipe line facilities but should be in a position to contribute its share of state production in the near future. The Round Mountain Field was discovered by the Elbe Oil & Land Co. during the latter part of 1927, but this concern subsequently passed out of the picture following disposal of its holdings to the Shell and Honolulu Consolidated Oil companies.

Kettleman Hills

Daily production of the Kettleman Hills Field of Kings County showed a substantial increase during the past week due to natural causes, notwithstanding that the Standard killed its No. 81 in Section 11-22-17 preparatory to deepening. The Continental Oil Co.'s premier producer is yielding 7,040 bbls. of clean 16.9 gravity oil and 128,000,000 feet of wet gas with clocklike regularity every 24 hours. The Milham Exploration Co.'s discovery, No. 1 Elliott, built up this week to 3,400 bbls. daily following a temporary decline immediately subsequent to completion of the Continental's initial producer. The Kettleman Hills' agreement has not yet retarded drilling operations at Kettleman Hills to any great extent but this proposal will probably become of more importance as time goes on. It might not be amiss to mention the fact that the agreement in question does not anticipate an immediate cessation of drilling as it stipulates that several projects would be permitted to drill down to production and that drilling operations on others might be continued at the discretion of the operator but that any work done after the agreement became effective would result in a delay of equal length of time before drilling operations could be resumed after the lifting of limitations on production and development. This ruling was subsequently modified by the Department of Interior to the extent that those wells privileged to drill into completion to validate leases would only be required to drill down to the top of the oil sand in order to eliminate the probability of any well getting beyond control. Four wells have been suspended in compliance with this agreement up to the present time. These include the Milham's No. 2 Elliot tin Section 2-22-17, No. 1 Kennedy of the same company in Section 28-21-17, No. 13 Elliott of the Continental in Section 2-22-17 and George F. Getty's No. 1 Armstrong in Section 4-22-17. The Standard Oil Co. with 17 strings of tools to its creit, is by far the largest single operator in the Kettleman Hills Field at the present time due to its lease holdings and extensive amount of fee owned acreage. This company, incidentally, has two wells rotating ahead in the oil sand at the present time. These are No. 41 in Section 3-22-17 at 7,095 feet and No. 8 in Section 1-22-17 at 6,600 feet. The Standard's attempt to inject natural gas into the Kettleman Hills structure has failed of fulfillment up to the present time as the company has been unable to inject any gas whatever into its test well in Section 11-22-17, which was bottomed at 2,316 feet. The Ohio Oil Co. successfully killed the heavy flow of salt water, approximating 20,000 bbls. daily, in No. 1 Smith and preparations are being made to determine the origin of this water which was flowing under a pressure of 1,700 pounds. The Ohio's No. 1 Smith is located in the south dome of the Kettleman Hills Field in Section 35-24-18 and was bottomed at 7,030 feet, at which point a production test was under way when the heavy flow of salt water made its appearance. It is the present intention to take a few cores from the bottom of the hole before determining future operations.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Standard, No. 1 Hawthorne, Los Angeles Co.	5- 3-14	7,790		br. sh. drilling
Ohio Oil Co., No. 1 Del Ray, Los Angeles Co.	21- 2-15	5,714		hd. sd. drilling
Marblehead Land Co., No. 1 Santa Monica, Los Angeles Co.	1- 2-19	218		sd. drilling
Dorn Drlg. Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	Rig		rigging up
Continental, No. 1 Alamitos, Los Angeles Co.	34- 4-12	mtl.		building rig
Burlingham Pet. Co., No. 1 Compton, Los Angeles Co.	17- 3-13	2,204		suspended
Lee & Brainerd, No. 1 Rosecrans, Los Angeles Co.	17- 3-13	Rig		suspended
Big Boy Drlg. Co., No. 1 Compton, Los Angeles Co.	22- 3-15	mtl.		building rig
Hanners, George, No. 1 Watts, Los Angeles Co.	8- 3-13	2,106		sd. sh. drilling
Cal. Well Drlg. Co., No. 1 Compton, Los Angeles Co.	11- 4-13	8,500		fishing
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	2,830		hd. sd. drilling
Russell Oil Co., No. 2 Joughin, Los Angeles Co.	23- 3-17	2,290		gr. sh. drilling
Pomona Oil Co., Well No. 1, Los Angeles Co.	32- 1- 8	1,220		cleaning out
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820		suspended
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	2,180		cleaning out
The State Co., No. 1 Puente, Los Angeles Co.	5- 2-10	1,011		br. sh. drilling
Urmi Oil Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	575		suspended
Monterey Park, No. 1 Jepson, Los Angeles Co.	25- 1-12	5,300		suspended
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	982		gr. sd. drilling
Union Oil Co., No. 1 Richfield, Los Angeles Co.	13- 3- 9	1,598		hd. sd. drilling
Southwestern Drlg. Co., No. 1 Richfield, Los Angeles Co.	21- 3- 9	5,777		suspended
Superior Oil Co., No. 1 Atwood, Los Angeles Co.	4- 4- 9	3,513		sd. sh. drilling
Coastline, No. 1 Devils Canyon, Los Angeles Co.	21- 5-17	1,310		fishing
Queen, J. M., No. 1 Newhall, Los Angeles Co.	22- 3-16	230		suspended
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	688		sd. sh. drilling
Shell, No. 1 Bolsa, Orange Co.	18- 5-11	mtl.		building rig
Shell, No. 1 Coyote, Orange Co.	28- 3-10	6,050		cleaning out
Beard, G. F., No. 1 Brea Canyon, Orange Co.	30- 2- 9	1,000		br. sh. drilling
Mesa Pet., No. 1 Newport, Orange Co.	31- 6-10	4,910		plug to 3,914
Western Gulf, No. 5, Newport, Orange Co.	21- 6-10	790		core hole
Oil Well Eng. Co., No. 1 Newport, Orange Co.	21- 6-10	2,806		recemented
Hall Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701		cemented
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,403		suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980		suspended
Davenport Oil & Gas Co., No. 1 San Marcos, San Diego Co.	30-12- 8	847		suspended
Turner, S. S., No. 1 Escondido, San Diego Co.	25-12- 2	3,004		sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	X-13- 4	1,084		sd. sh. drilling
China American Oil Co., No. 1 Oasis, San Bernardino Co.	17- 4- 4	...		grading

Potrero

Rapid progress is being made in initiating drilling operations in the town lot section of the Potrero Field and several additional wells will be making hole within the next few days. Many operators are wondering in the face of this intensive development how many of the wells now starting will ultimately pay out. The advisability of starting new wells has been questioned by some operators because of the present condition of the two wells recently put on production. Both of these projects came in under a natural flow but it is interesting to note that George F. Getty has already found it necessary to put his No. 1 Potrero on the beam as this project has failed to come back without artificial stimulation. York & Lockhart's No. 1 Blinn, which also sanded up a short time ago, likewise failed to come back no natural production. It has accordingly been put on a compressor and it is at the present time doing approximately 500 bbls. daily from 3,855 feet. The next project which will test out the potentiality of the Potrero town lot area will be Blinn & Bergman's No. 1, although the outlook for production in this well from the present horizone does not look any too hot. The Associated Oil Co. will probably make a bid for production in its No. 1 Potrero possibly some time within the next three weeks.

The Continental Oil Co. successfully completed No. 2 Santa Fe, a new well in the Richfield district of Los Angeles Basin, pumping 126 bbls. of clean 21.2 gravity oil daily from 4,454 feet, the hole having been finished with a 5-inch liner carrying 474 feet of perforated. The Continental is also putting the finishing touches on No. 1 Stern at 4,484 feet and No. 3 Winnan, which has been bottomed at 4,462 feet. No. 1 Lypps is also expected to be given a production test shortly. The Superior Oil Co. also listed a new well for completion in the Richfield district this week when No. 3 Guarantee was brought in pumping 342 bbls. daily from an even 4,500 feet. The Marland Oil Co. has shut in three wells in the Seal Beach Field which have been producing from the Selover zone and has started repressuring this horizon with surplus gas from the Bixby and Wasem zones. Natural gas is being injected into the Selover zone at the rate of 3,000,000 feet daily and it is the present intention to thoroughly repressure this sand as most of it is embraced by the Bixby and Selover leases. The Standard Oil Co. killed No. 23 San Gabriel, a recent completion in the Seal Beach Field of Los Angeles Basin, and drilling will be resumed at 5,412 feet. No. 16 San Gabriel which was also finished last week and looked like a 1,000-bbl. well, has been put on the beam and is at the present time pumping 230 bbls. daily. The James Oil Co. successfully recompleted its No. 4 Signal in the Long Beach Field doing 585 bbls. of 31.1 gravity oil and 2,300,000 feet of natural gas daily from 6,865 feet. This well was taken over some time ago from the Big Bear Oil Co. The Macmillan Petroleum Co. increased its daily production at Long Beach this week by completing No. 1 Ifland flowing 1,360 bbls. of 28.2 gravity oil from 7,418 feet, the hole having been finished with a 4¾-inch oil string carrying 1,092 feet of perforated.

Ventura Avenue

Operators in the Ventura Avenue Field have not yet shown any disposition to comply with the ruling of R. D. Bush, state oil and gas supervisor, which ordered immediate compliance with the gas conservation law and set out a definite maximum permissible gas waste of 5,000 feet for each producing well daily. The five days of grace following posting of the notice have already expired and injunction proceedings will probably be instituted in the not far distant future. Legal action to enforce compliance with the gas law in this field will not be as complicated as similar proceedings at Santa Fe Springs due to the smaller number of operators affected and the smaller number of leaseholds. One new well was finished in the Ventura Avenue Field during the past week but this addition to the field's list of producers was rather unsatisfactory. The project in question was No. 2 S. P. of the Pacific Western Oil Co., which came in flowing 300 bbls. of fluid daily from 7,365 feet. It is quite probable that the Associated and Shell will also increase their list of producers in this field shortly as each company has several projects rotating ahead in the pay. The Lincoln Drilling Co. is pursuing a conservative but progressive development campaign in the Summerland Field of Santa Barbara County where it proved up the second productive zone some time ago. This company has already finished three producing wells and is rigging up No. 1 McDonald for immediate spud. George F. Getty already has two wells under way in this area and will begin drilling another new well out in the open ocean as soon as the necessary preliminary work has been completed. The Associated has not yet succeeded in finishing No. 1 S. P., which has bottomed at 1,317 feet, and the outlook is not any too favorable.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	997,250	2,839,582
Fuel oil	.....	.....	.....	.....	457,175	111,621
Diesel and gas oil	74,475	10,645	248,066	35,435	1,957,588	1,543,114
Gasoline	478,245	68,321	444,594	63,513	16,671,969	11,263,385
Kerosene	.....	.....	49,750	7,107	49,750	.....
Naphtha distillate	.....	.....	.....	.....	81,750	259,600
Coastwise—						
Crude oil	390,759	55,823	657,789	93,967	22,258,515	20,010,070
Fuel oil	533,873	76,268	395,242	56,463	15,712,396	13,347,241
Diesel and gas oil	53,831	9,690	34,997	5,000	991,409	939,787
Gasoline	130,813	18,688	301,557	43,080	8,867,172	7,462,765
Kerosene	.....	.....	.....	.....	69,509	65,653
Naphtha distillate	.....	.....	.....	.....	.....	171,566
Exports—						
Crude oil	117,736	16,819	106,767	15,252	4,706,074	1,785,457
Fuel oil	690,211	98,602	422,076	60,297	15,077,601	18,562,669
Diesel and gas oil	24,225	3,461	19,239	2,748	2,104,237	1,927,852
Gasoline	20,610	2,944	559,350	79,907	9,603,803	5,867,212
Kerosene	127,619	18,231	125,678	17,954	2,698,903	3,486,074

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Crude oil	.....	.....	.....	.....	.....	.....
Diesel and gas oil	.....	.....	.....	.....	.....	342,425
Gasoline	87,090	12,441	159,102	22,729	1,905,037	1,672,095
Lubricants	.....	.....	.....	.....	138,706	277,151
Coastwise—						
Fuel oil	274,265	39,181	.....	.....	2,627,753	2,981,771
Diesel and gas oil	.....	.....	.....	.....	359,058	263,231
Gasoline	30,092	4,300	70,130	10,019	4,081,908	3,726,307
Kerosene	4,998	714	7,503	1,072	144,445	185,958
Exports—						
Crude oil	.....	.....	.....	.....	121,603	96,250
Fuel oil	55,780	7,969	65,145	9,306	778,606	1,989,572
Diesel and gas oil	.....	.....	.....	.....	.....	342,425
Gasoline	261,126	37,304	15,000	2,143	4,457,702	3,753,716
Kerosene	.....	.....	.....	.....	528,060	470,760
Lubricants	.....	.....	.....	.....	25,715	33,535

SCALE OF ROYALTIES IN MICHIGAN FIELD

MUSKEGON, Mich., Oct. 21.—Establishment of a sliding scale of royalties on proven oil territory leased from the State, of a rate of one-eighth royalties on wildcat territory leased from the State and other policies relative to the oil industry in Michigan engaged much of the attention of the State Conservation Commission at the recent meeting in Lansing.

The State will not sell gas and oil rights outright and no company will be limited in the number of leases it may obtain on state-owned lands, the commission ruled.

The standard rental price on state-owned land on which oil and gas leases have been obtained shall be 50 cents an acre per year. In the future the rental money will be rebated on 80 acres for each well drilled.

Two definite royalty systems were adopted by the commission. On wildcat territory the State will receive a royalty of one-eighth of the return from all oil or gas produced and sold at the market price.

On proven territory the State will receive royalties on a sliding scale basis to be determined at the November meeting of the Conservation Commission.

INDIAN LANDS IN MT. PLEASANT

Indians classed by the Federal Government as "not competent" need not pay the new oil and gas severance tax in Michigan, according to a ruling made by Attorney General Wilbur B. Brucker. Leases have been taken and developed by oil companies on land held by Indians near the Mount Pleasant Field.

The Federal Government gives competent Indians their land outright but the less competent are given grants only under regulation. The Michigan attorney general ruled that in view of this condition the "competent" Indians must pay the severance tax of 2 per cent of the returns from oil and gas produced on their lands while the "not competents" will go tax free.

Read dese edifyin' wuhds ob
Ansom Jasper Brown
De Big, Hard Rubber Man from South ob Seminole Town

"Any old hole is a good enough hole
To let yo casing down;
Exceptin' when yo hole's a well,
An' yo casing's in de groun'."

ANSOM JASPER BROWN, in his own words, "am in a strateejuck posishun." Things that are picked up along the roads come to him invariably. He's looked into more holes than there are in Seminole. And what he knows about making hole is nobody's business.

"It's a black mounting that makes a diamond shine," however, and we're just going to remind you that what Ansom said about putting your casing down is a little bit of wisdom that'll put an Aesop Fable out of the picture show business. To make hole, good hole, day after day, with undiminished speed and no fear of breakdowns, use a GUIBERSON Underreamer. The GUIBERSON Underreamer stands a far longer and faster stroke. The down-thrust bearing surface is three times greater than that of any underreamer on the market. Cutters taper into the body with a dove-tail fit and are secured by both bolt and mandrel. Head and tongue are forged in one piece, from a solid steel billet, so insides cannot possibly pull out. Drillers say that this underreamer is as rigid as a drilling bit. Popular acclaim has given it the name of "The World's Strongest Underreamer."

Fully Patented

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas
California Branch: 1506 Santa Fe Ave., Los Angeles
621 Kennedy Bldg. TULSA | 321 S. Osage St., PONCA CITY | 506 Trust Bldg., NEWARK, O.

GUIBERSON
BETTER BE SAFE GUIBERSON THAN SORRY

TRANSIT TONGS

The original & only genuine Klein

Agents

FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store.

REPUBLIC SUPPLY COMPANY
of California
Los Angeles, California

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

NATIONAL TRANSIT
Pump & Machine Co.
Oil City, Pa.

DISTRICT OFFICES

NEW YORK
CLEVELAND
PHILADELPHIA
HOUSTON
TULSA
PITTSBURGH
LOS ANGELES

Agents

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Dry Holes in Taylor-Link and Girvin

Seven Out of Nine Completions Makes Areas Look Disappointing, but Ector County Wildcat Better Than First Reported

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 21.—Seven dry holes out of the nine completed wells in the Taylor-Link and Girvin Pools, Pecos County, made these two areas look exceedingly disappointing this week, but Ector County's new wildcat proving itself to be better than first reported will help balance the Permian Basin, while in the intervening space White Eagle Oil & Refining Co. completed one of the best producers of the McCamey area. Ward County's new wildcat is still marking time, as is the Taylor County wildcat of Dunnigan Brothers and the Shell Petroleum Corp., which is waiting for more storage and pipe line connections. Northwest of Fort Stockton, the Pryor or Courtney area is again looking up; the Phillips Petroleum Corp.'s No. 2 Pryor (Courtney) now promising to be a small producer from shallow sand.

This last well is an offset to the first well drilled by the same company and abandoned last week at 4,376 feet after having topped a shallow sand at 1,345 feet and an increase at 1,367 feet and producing 378 bbls. of 22 gravity from those pays. A western offset to the first well was drilled in the NE cor., Section 77, by the same company and it also was abandoned at 1,450 feet after encountering a slight showing of oil at 1,407 feet. This third test, No. 2 Pryor, has evidently found a heavier sand at 1,395 feet for it swabbed 75 bbls. of oil in two hours and could not lower the oil over 200 feet while swabbing. It is shut down at 1,408 feet waiting on pumping equipment, and the next week will affirm or deny the possibilities of this third test in the area. The well is located in the NW cor., Section 78, Block OW, T.&M. R.R. Survey, approximately 9 miles northwest of Fort Stockton, about 22 miles southwest of the nearest production which is in the Pecos Valley Pool.

Ector County Well

Penn and others' No. 1 Kloh-Rumsey, located on the south line of Section 7, Block 44, T-3-S, T.&P. Survey, Ector County, is still shut down at 3,744 feet waiting on more storage and a connection with the Humble Pipe Line Co.'s 8-inch line from the Hendricks Pool in Winkler County to McCamey. The well flowed 376 bbls. in 24 hours ending at 7 a.m. October 20, and the Humble Oil & Refining Co., which took over the operation of the well and acreage, will run 3-inch tubing with a packer to try and increase the flow. At present there are three 1,000-bbl. tanks almost full, and the company is building one 55,000-bbl. tank to take care of the production until pipe line connection can be made. Offset locations have not been wildly staked as they were in the Taylor-Link Pool, Pecos County, but this is no doubt due to the Humble Oil & Refining Co. owning direct offset acreage to the well, and having control of the situation to a great degree, although the split-up sections to the west will no doubt be moved in on in a short while. The last 24-hour gauge of the well, ending at 7 a.m. October 21, showed it producing 375 bbls., making a daily average for the week of 370½ bbls.

Ward County Pool

In Ward County, the Alpine Oil Co.'s No. 1 Bougher, located in Section 11, Block 5, H.&T.C. Survey, is also shut down. Total depth is 2,150 feet, and it is standing with 1,500 feet of oil in the hole from pay topped at 2,120 feet, two weeks ago. It has swabbed over 200 bbls. of oil since October 8, and the company is now preparing to put it on the pump. This well is located about 4 miles southwest of the Shipley Pool, and is opening up another pool similar to that one and the Penn and Atlantic Oil Producing Co.'s Pecos Mercantile Pool, which is 6 miles northwest of the Shipley Pool, and has one well producing, with one new location staked this week by the discovering companies.

The southern end of the Shipley Pool seems to be defined now by three dry holes, one owned by the Shell Petroleum Corp. and located in the eastern corner of Section 16, one by Cranfill & Reynolds in the north corner of Section 15, and one by the Gulf Production Co. in the west corner of Section 18, all being offsets to each other at the common corner. The Cranfill & Reynolds well is shut down at 2,495 feet after being shot from 2,420-35 feet with no results. Completion records of the other two will be found in the West Texas completions.

Taylor-Link and Girvin Pools

The following seven dry holes in the Taylor-Link and Girvin Pools helped to define the limits of these new areas in Pecos County. Gulf Production Co.'s No. 1 State-Hale, in Section 16, Block 20, 3 miles northwest of the Taylor-Link discovery, was abandoned at 1,695 feet, and was another defining test in the northwestern direction. Moncrief's No. 1 University in Section 27, Block 18, encountered sulphur water at 1,870 feet and was abandoned at 2,098 feet helping to define the pool to the southwest. It is 2½ miles southwest of the Taylor-Link discovery well. Sun Oil Co.'s No. 2 University in Section 8, Block 17, abandoned at 1,715 feet defined the pool 2 miles southeast. It had a slight show of oil from 1,588-1,602 feet and was shot with 80 quarts of nitroglycerin at those depths, but with no results. The Sun Oil Co.'s No. 1 University-Carlson abandoned at 2,244 feet also defined the pool farther to the southwest. It encountered sulphur water at 1,830 feet.

Rowan and Tong

Tidal Oil Co.'s No. 1 McDonald, southwest offset to the Rowan & Tong discovery was a failure at 1,735 feet, after hitting sulphur water at 1,730 feet. It had an estimated amount of 1,000,000 feet of gas at 1,365 feet, which failed to materialize into paying quantities or help bring forth oil production.

Independent Oil & Gas Co. and Rowan & Tong's No. 1 McDonald, the discovery well, is reported to have fallen off to about 6 bbls. per hour on the pump, it showing 2 per cent water and b.s. Their No. 3 McDonald was abandoned at 1,675 feet. It is south of the discovery.

The Landreth Production Co.'s No. 1 McDonald, to the south of the discovery about a half mile, was abandoned at 1,698 feet, practically proving that production in this pool is not to be found in that direction, although it may run in other directions.

Upton County Surprise

White Eagle Oil & Refining Co.'s No. 2 Ed S. Hughes, in the William Teer Survey, Upton County, was rather a surprise to operators in that vicinity, when it came in for an initial production of around 100 bbls. hourly from pay topped at 2,268 feet. Total depth is 2,275 feet, and top of lime is 2,240 feet. Gauge for the 24 hours ending at 7 a.m. October 21, showed it making 1,930 bbls., no water, the best well completed in this oil pool for a long time, and one of the best wells ever produced in this area. The Gulf Production Co. is drilling an offset as is also the Pure Oil Co. The Pure Oil Co.'s No. 1 Hughes, an offset to the southwest, came in for an initial production of only 214 bbls., consequently it was believed, generally, that the White Eagle well did not have much of a chance to make as good a producer as it did. Gulf Production Co.'s No. 2-B Hughes was reported as swabbing and flowing 60 bbls. at 2,270 feet, and does not look much better than Pure's offset.

Taylor County Well

Dunnigan and Shell Petroleum Corp.'s No. 1 Davidson, located in the south half of the W. R. Willis Survey, Taylor County, is averaging better than 325 bbls. daily from a total depth of 2,391 feet where it was first shut down after topping the pay sand from 2,387-89 feet. It is still waiting on pipe line connections, and more storage is being erected to care for the present production. It now looks as if the Shell Pipe Line Co. would be obliged to lay a gathering line from its main trunk line running through Fisher County from McCamey, Tex., to Healdton, Okla., for the trunk lines running through Jones and Taylor Counties out of West Texas are running to capacity, and the companies seem unwilling to run a gathering line down to the new discovery of the county.

The Continental Oil Co. and Group One Oil Corp., which is a subsidiary of the Continental Oil Co., have cellars dug for two more deep tests in the Big Lake Field, Reagan County. Their No. 3-B University is located 920 feet from the west and 2,240 feet from the south lines of Section 36, Block 9, offsetting Big Lake Oil Co.'s No. 3-C University which is now producing around 160 bbls. daily while fishing for a string of tools. Total depth of this second deep producer is 8,380 feet. Cellar for No. 2-B is 4,655 feet from the south line and 250 feet from the west line of Section 36.

WEST TEXAS PRODUCTION
Week Ending October 19

County—	Wells	Bbls.
Crane County	319	36,310
Crockett	44	1,877
Ector	3	354
Fisher County	7	1,390
Glasscock-Howard	404	39,947
Jones County	73	2,735
Loving County	14	874
Mitchell County	142	2,538
Pecos County	344	139,459
Reagan County	249	17,474
Runnels County	3	16
Scurry County	5	32
Upton County	242	9,266
Ward County	14	1,752
Winkler County	598	118,481
Total this week	2,461	373,005
Total last week	2,446	366,919
Difference	15	6,086

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended October 21

Company, farm and location—	Remarks—
ANDREWS COUNTY	
Deep Rock's No. 1 Ogden, 2,310 ft. E, 330 ft. S, Sec. 6, Blk. A-46, Public School Land	Reaming 10-in. casing 1,640 ft.
BORDEN COUNTY	
Louisiana Oil & Ref. Co.'s No. 1 Miller, 1,320 ft. from W and 150 ft. from S line, Sec. 355, Blk. 97, H.&T.C.	Top lime 2,300 ft.; drlg. 2,710 ft.
Moncrief et al's No. 1 Munger, C of SW, Sec. 14, Blk. 31	Drlg. 2,240 ft.
Teas & Wheeler's No. 1 Long, 1,320 ft. N and E of Sec. 27, Blk. 30, T.&P. Sur.	Top salt 1,030 ft.; drlg. 3,525 ft.
BREWSTER COUNTY	
E. W. Bateman et al's No. 2 Nevill, 2,000 ft. S and W line of Sec. 62, Blk. 13, G.H.&S.A.R.R. Sur.	Shut down 2,174 ft.
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F.	Shut down 1,935 ft.
Cowden & Bowser's No. 1-A Jackson & Harmon, Sec. 1, Blk. 331, T.C.R.R. Sur.	Set 8-in. 1,550 ft.; shut down 2,000 ft.
Forrest Oil Co.'s No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Drlg. 695 ft.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor., Sec. 182, Blk. 9, G.H.&S.A. Sur.	Shut down 2,000 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,740 ft.
COKE COUNTY	
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 2,892 ft.
Mid-Kansas Oil Co.'s No. 1 W. E. Lackey, 330 ft. N and E of SW cor., Sec. 272, Blk. 1-A, H.&T.C.	Pay 3,755-56 ft.; 6⅝-in. casing set 3,451 ft.; underreaming at 4,058 ft.; drlg. 4,108 ft.
CONCHO COUNTY	
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R.	Spudded and shut down.
Jones & Leiner's No. 1 Jones, 420 ft. S and 15 ft. E of NW cor. John G. Reh Sur. No. 1,878	Top lime 1,770 ft.; top pay 1,775-80 ft.; 18 ft. oil in hole; to test; shut down 2,375 ft.
Turner et al's No. 1 Borsig, 150 ft. from S of SE cor. G. Emig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.
CRANE COUNTY	
Church & Field's No. 4 University-Dewell, 2,310 ft. N and 990 ft. E of SW cor. Sec. 39, Blk. 30, University Land	Drlg. 2,200 ft.
Duffey et al's No. 6 Cowden, 990 ft. from S, 1,650 ft. from E, Sec. 18, Blk. T.	Top pay 2,360 ft.; drlg. 2,450 ft.; 1,600 ft. oil in hole.

(Continued on Page 108)

WEST TEXAS COMPLETIONS
Week Ending October 19

Crane County

Gulf Production Co.'s No. 8 Waddell, located 330 feet north and west of the SE cor., Section 2, Block B-23, was dry and abandoned at 3,859 feet. Tidal Oil Co.'s No. 10-I University, located in Section 47, Block 30, topped the pay at 2,820 feet, was drilled to a total depth of 2,925 feet, plugged back to 2,910 feet and had an initial production of 319 bbls. in 18 hours.

Crockett County

Taylor-Link's No. 3 Powell, located in Section 52, Block BB, E.L.R.R. Survey, topped the pay at 2,637 feet, was drilled to a total depth of 2,643 feet and had an initial production of 125 bbls.

Glasscock County

Houston Oil Co.'s No. 1 McDowell, located in Section 30, Block 33, Township 2s, was dry and abandoned at 2,603 feet. Midwest Exploration Co.'s No. 1 Edwards, located in Section 20, Block 34, T.P.R.R. Survey, was dry and abandoned at 3,265 feet.

Garza County

Paul Steed's No. 1 Boren, topped the pay at 2,509 feet, was drilled to a total depth of 2,546 feet, was shot with 30 quarts at 2,509-39 feet, was shot with 80 quarts at 2,505-35 feet, had oil shows at

(Continued on Page 107)

Gray County Pool Extended Half Mile

Apparent Defining to the West of Eastland Pool in Coleman County. Semiwildcat Discovery in Wilbarger County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Oct. 21.—A half mile extension to one of Gray County's pools, and a drop of over 2,200 bbls., featured the Panhandle district this week. The Wichita Falls district did not record any special news of interest. Apparent defining of the Eastland Pool to the west was rather important to operators and companies in Coleman County, and lack of pressure in this pool is causing the companies to put their wells on the pump as soon as they are completed. Fifteen wells were completed in this pool during the week.

Big Gray Oil Co.'s No. 1 J. M. Saunders (formerly Dodson and Shell Petroleum Corp.'s), located in the W half NW, Section 40, Block 3, I.&G.N. Survey, swabbed 505 bbls. during the 24 hours ending at 7 a.m. October 19, from pay encountered from 2,985-90 feet. Total depth of the well is 3,110 feet, and gravity of the oil 40. This is a half mile northern extension to the Saunders Pool and opens up still more productive territory in Gray County.

The Dixie Oil Co. is reported to have paid $50,000,000 for the Waggoner ranch consisting of 525,000 acres, gross production of 30,000 bbls. of oil daily, refinery, pipe lines and gasoline plant, including the livestock on the ranch. Reported prices were named as high as $75,000,000 and other reports were to the effect that the owner had later refused to sell, after the company had checked the properties.

Archer County seemed destined to have more producing area opened this week when Shaw and others' No. 1 McLaren and others in the J. Conner Survey, Abstract 57, topped an oil sand from 2,440-46 feet and filled up 1,000 feet of oil in 48 hours. Total depth of the test is 2,449 feet, but the owners are to plug back to the pay sand.

Wilbarger County was the scene of a little interest when the Zenith Oil Co.'s No. 1 George looked good for opening the area between the old Sigler and South Vernon Field, for production. The well topped the sand at 2,190 feet and was shut down to test. It is now being put on the pump. Section 29 of the J. Poitevent Survey claims this new semi-wildcat discovery.

Interesting Wildcat

An interesting wildcat for the Wichita Falls district will be the J. L. McMeans and Fain-McGaha Oil Corp.'s No. 1 Peter Miller, located 150 feet north and west of the north line of Miller's 220-acre tract in the A. H. Lynde Survey, Abstract 2,777. It is about 1½ miles south of the Cooke County line in an area which is to receive three other tests on a "high" covering considerable area.

The Eastland Pool in Coleman County is exceedingly active, 15 smaller producers being completed during the week, with one of them practically signifying the defining point on the west. It is the Eastland Oil Co.'s No. 1 J. J. Crowder, in the northeast corner of the west 40 acres of the north 100 acres of the Crowder farm in the J. H. Woods Survey, abstract 483. Top of the pay was encountered at 2,018 feet and the well completed at a total depth of 2,042 feet, estimated good for only 100 bbls. of oil and 15 bbls. of water, the water believed to be the marker for the west side.

While the western side was apparently defined in the Eastland Oil Co.'s No. 1 Crowder, the company's No. 6-A Keeney in the northeast part of the pool is being watched with considerable interest as an extensioner in that direction about 700 feet.

WICHITA COMPLETIONS
Week ending October 19

Archer County

L. T. Burns' No. 1 Wilson had an initial production of 45 bbls. at 1,444-50 feet. Heydrick & Stump's No. 2 White was dry and abandoned at 1,710 feet. Continental and Underwood's No. 7 Ward was dry and abandoned at 1,128 feet. Cullum and Prairie Oil & Gas Co.'s No. 2 Falls County was shot with 30 quarts at 1,093-1,108 feet and had an initial production of 48 bbls. M. & V. Oil Co.'s No. 2 Kunkel was dry and abandoned at 1,188 feet. Perkins & Cullum's No. 1 Lanster was dry and abandoned at 1,425 feet. Petroleum Production Co. and others' No. 12 Kunkel had an initial production of 65 bbls. at 1,108-32 feet.

Cooke County

Coline Oil Co.'s No. 3 Huggins was drilled to a total depth of 1,148 feet, and had an initial production of 28 bbls. at 1,115-48 feet. Danciger Oil & Refining Co.'s No. 11 Huggins had an initial production of 33 bbls. at 1,106-23 feet. Hooser and The Texas Company's No. 1 Shiftlett was dry and abandoned at 2,107 feet. C. C. Lanier and others' No. 1 Hunt was dry and abandoned at 2,504 feet. McElreath & Suggett's No. 1 Harris was dry and abandoned at 2,006 feet. Thornton & Taubert Oil Co.'s No. 1 Hyman was dry and abandoned at 2,002 feet.

Jack County

L. C. Harper's No. 5 Box had an initial production of 87 bbls. at 3,113-14 feet. M. McGuire's No. 1 Clayton was drilled to a total depth of 2,896½ feet, and made 11,500,000 feet of gas at 2,891-94 feet.

Montague County

Archer Drilling Co. and others' No. 1 Salmon had an initial production of 12 bbls. at 1,179-91 feet; No. 2 Salmon had an initial production of 65 bbls. at 988-1,022 feet. Bridwell Oil Co.'s No. 9 Edmondson had an initial production of 42 bbls. at 1,086-1,103 feet.

Throckmorton County

Shappell Oil Co.'s No. 4 Upshur was dry and abandoned at 1,653 feet.

Young County

Bundy and others' No. 1 Johnson was dry and abandoned at 562 feet. Franklin's No. 1 Richardson location was temporarily abandoned. Moran and others' No. 1 Hoffman was dry and abandoned at 675 feet. Panhandle Refining Co.'s No. 3 Prideaux was dry and abandoned at 750 feet. Park and others' No. 1 Cullers had an initial production of 20 bbls. at 538-93 feet. Perkins & Cullum's No. 4 Lemmond was dry and abandoned at 760 feet. Terrell's No. 1 Laremore was dry and abandoned at 755 feet. Trinity Oil Co.'s No. 2 Barrett had an initial production of 5 bbls. at 574-87 feet. Young and others' No. 1 Foster was dry and abandoned at 600 feet. Shaw and others' No. 1 Jaringan had an initial production of 175 bbls. at 2,490-2,538 feet. United Royalty Co.'s No. 1 Hockaday was dry and abandoned at 4,164 feet.

Wichita County

Alberta Oil Co.'s No. 1 Gibson was dry and abandoned at 1,998 feet after having an oil show at 1,907-08 feet.

Wilbarger County

Bass, Dillard & Simms' No. 1 Waggoner was dry and abandoned at 1,946 feet. Consolidated Oil Co.'s No. 1 Waggoner-S was dry and abandoned at 1,952 feet. Empire Gas & Fuel Co.'s No. 14-A Waggoner had an initial production of 16 bbls. at 1,837-63 feet and was drilled to a total depth of 1,865 feet. Fain & McGaha's No. 131 Waggoner had an initial production of 110 bbls. at 2,294-2,317 feet and was drilled to a total depth of 2,323 feet. Their No. 18 Waggoner had an initial production of 150 bbls. at 2,264-96 feet and was drilled to a total depth of 2,299 feet. Ferguson and others' No. 1 Waggoner was dry and abandoned at 1,960 feet. Hemisphere Oil Co.'s No. 1 Castleberry was dry and abandoned at 2,650 feet. Rathke's No. 1 Watts was dry and abandoned at 3,403 feet. Staley Wynne & Co.'s No. 7-B Waggoner had an initial production of 90 bbls. at 1,887-92 feet. Their No. 8-F Waggoner had an initial production of 140 bbls. at 2,413-21 feet. Their No. 1-M Waggoner was drilled to a total depth of 2,429 feet, plugged back to 2,425 feet and had an initial production of 148 bbls. Sumner & Massie's No. 1 Waggoner was dry and abandoned at 2,450 feet. The Texas Company's No. 1-D Waggoner had an initial production of 85 bbls. at 2,390-97 feet. Venmex Oil Co.'s No. 1 Waggoner-F had an initial production of 60 bbls. at 1,940-45 feet. Their No. 1 Waggoner-G was dry and abandoned at 1,931 feet. Wilbarger Oil Co.'s No. 4 Waggoner-A was dry and abandoned at 2,015 feet.

NORTH TEXAS PRODUCTION
Week ending October 19

Panhandle District—	Prod.
Carson County	9,606
Hutchinson County	27,905
Gray County	66,912
Moore County	880
Potter County	....
Wheeler County	837
Total this week	106,140
Total last week	106,763
Decrease	623
Wichita District—	
Archer County	18,382
Baylor County	68
Clay County	745
Cooke County	10,354
Foard County	221
Jack County	3,778
Haskell County	92
Montague County	6,408
Throckmorton County	642
Wilbarger County	30,602
Young County	6,462
Wichita County	25,490
Total this week	103,244
Total last week	104,143
Decrease	899
Ranger District—	
Brown County	10,966
Callahan County	3,475
Coleman County	8,135
Comanche County	1,240
Palo Pinto County	545
Eastland County	5,569
Shackelford County	9,975
Stephens County	6,370
Total this week	46,275
Total last week	45,287
Increase	988
Total this week	255,659
Total last week	256,193
Decrease	534

RANGER COMPLETIONS
Week ending October 19

Brown County

Bakers Brothers' No. 3 White heirs was dry and abandoned at 1,175 feet. G. A. Brider's No. 4 Kessler had an initial production of 250 bbls. at 1,320-44 feet. Davis Hall's No. 1 Dunn was dry and abandoned at 1,320 feet. Anna B. Gordon's No. 1-B Cannon was dry and abandoned at 1,300 feet. Herring and others' No. 1 Laymen was dry and abandoned at 1,346 feet. Humble Oil & Refining Co.'s No. 8-A Kilgore had an initial production of 10 bbls. after having been shot with 5 quarts at 1,163-73 feet. S. B. Owens' No. 5 Cannon had an initial production of 20 bbls. at 1,146-55 feet. Paramount Royalty Co.'s No. 1 Shore was dry and

(Continued on Page 107)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending October 21

CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Continental Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SE, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,700 ft.
Danciger O. & R. Co.'s No. 1 Block, 330 ft. from N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	Set 6-in. csg. 2,851 ft.
Delmar Oil Co.'s No. 5 Noel, 330 ft. S and W, NE cor. W½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	S.G. 3,000-10 ft; S.D. 3,131 ft.
Empire G. & F. Co.'s No. 1 Fields, 1,650 ft. from N and E, Sec. 13, Blk. 7, I.&G.N. Sur.	Shut down.
Empire G. & F. Co.'s No. 1 M. P. Co. "C," 330 ft. N and W, SE cor. NW, Sec. 108, Blk. 4, I.&G.N.R. R. Sur.	S.D. 3,305 ft; P.B. 3,140 ft.
Empire G. & F. Co.'s No. 2 Deahl, 660 ft. N and E, SW, Sec. 3, Blk. 5, B.&B. Sur.	Rigging up.
Empire G. & F. Co.'s No. 1 Thorp, C NW, Sec. 26, Blk. T, A.B.&M. Sur.	Location.
Herragan Oil Co.'s No. 1 L. C. McConnell, 330 ft. N and W lines, W½ SW, Sec. 187, Blk. 3, I.&G.N. Sur.	S.G. 2,780 ft; increase from 2,860-2,908 ft; S.D. 2,925 ft.
Osborne et als' No. 3 Percival, 330 ft. N and W, SE cor. E½ NE, Sec. 199, Blk. 3, I.&G.N.R.R. Sur.	Location.
Pansota Oil Co.'s No. 1 Block, 330 ft. S and W, NE cor. SW, Sec. 111, Blk. 4, I.&G.N.R.R. Sur.	Location.
Phillips Pet. Co.'s No. 1 Garner, 330 ft. N and E, SW cor. SW, Sec 114, Blk. 4, I.&G.N. Sur.	Drlg. 2,900 ft.
Prairie O. & G. Co.'s No. 2 Nail, 330 ft. from N and W lines, N½ E½ SE, Sec. 198, Blk. 3, I.&G.N. Sur.	10,000,000 ft. gas 2,830-2,985 ft; S.D. 3,112 ft.
Red River Gas Co.'s No. 3 Lee Bivins-A, C SE SE, Sec. 43, Blk. M-20, G.&M.R.R. Sur.	S.D. 550 ft.
Reynolds et als' No. 2 Cooper, 330 ft. from S and W lines, E½ NW, Sec. 5, Blk. 9, I.&G.N. Sur.	Drlg. 2,335 ft.
Ryan Cons. Oil Co.'s No. 5 Block, 330 ft. N and W, SE cor. NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Set 8-in. csg. 2,407 ft.
Ryan Cons. Oil Co.'s No. 6 Block, 330 ft. S, 990 ft. E, NW NE, Sec. 111, Blk. 4, I.&G.N. Sur.	Drlg. 1,990 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Rig.
Skelly Oil Co.'s No. 19 Schafer, 330 ft. N, 990 ft. E, SW cor. NE, Sec. 198, Blk. 3, I.&G.N. Sur.	6,000,000 ft. gas 2,895-2,970 ft; S.D. 3,100 ft.
Skelly Oil Co.'s No. 20 Schafer, 330 ft. N, 990 ft. W, SE cor. N½, Sec. 198, Blk. 3, I.&G.N. Sur.	S.D. 3,090 ft.
Skelly Oil Co.'s No. 21 Schafer, 340 ft. N, 1,540 ft. W, SE cor. SE, Sec. 68, Blk. 4, I.&G.N.R.R. Sur.	Location.
Stubblefield et als' No. 1 Garner, 330 ft. from S and E lines, SE, Sec. 104, Blk. 4.	T.P. 2,990-3,024 ft; I.P. 25 bbls.; T.D. 3,080 ft; to shoot.
The Texas Co.'s No. 4 Lewis, 330 ft. N and E, SW cor. NW NE, Sec. 115, Blk. 4, I.&G.N.R.R. Sur.	Drlg. 2,005 ft.
The Texas Corp.'s No. 2 Noel, 990 ft. from S, 330 ft. W, NW, Sec. 187, Blk. B-3, I.&G.N. Sur.	S.D. 2,351 ft.

(Continued on Page 111)

We are pleased to announce that the Atlantic Refining Company has taken a license under our patents and will immediately erect polymerizers having a Vapor Phase Refining capacity of 10,000 barrels of cracked gasoline per day.

The Gray Processes Corporation
961-975 Frelinghuysen Avenue
Newark, New Jersey

Pipe Line Construction News

MONTANA GAS PLANS DURING COMING YEAR

Montana's natural gas resources will be more generally utilized in the coming year and plans will be put into effect early in 1930 for wider distribution through Montana and into western North Dakota. A pipe line from Glendive, Mont., 90 miles to Williston, N. Dak., is in the construction budget of Minnesota Northern Power Co., Minneapolis.

The line from Glendive to Williston will furnish gas to Stipek, Intake, Burns, Savage, Crane, Sidney and Fairview, besides Williston.

Red Lodge, in Carbon County, Montana, will vote shortly on the granting of a franchise for natural gas. Red Lodge is located in the southern part of the State and close to the mountains. It is a mining city and a gas supply would likely come from Wyoming fields.

The Montana Dakota Power Co. is in a jam at Malta, Mont., as to the laying of its pipe lines in the streets of that city. The city gave the power company a franchise with the condition that the company would have its lines laid by a certain time. Now the city wishes to change to another firm that has gas production on the Bowdoin Dome near Malta. The power company is going ahead with its line in spite of the city's opposition.

The Northern Utilities Co. supplying gas to Shelby, Mont., is being brought into court by the State Railroad Commission on the charge that the Utilities company failed to file rates in compliance with the regulations.

From the Baker Field in Montana a pipe line is to be constructed 220 miles in length approximately paralleling the Northern Pacific Railway to Mandan and Bismarck, N. Dak. This new construction work is in addition to that of the Ponderay Utilities Co., which was organized to pipe natural gas 33 miles from the Kevin Field in Montana for distribution to three Montana towns, Conrad, Choteau and Valier.

A natural gas pipe line, 40 miles long, from Cabin Creek to Glendive, Mont., was completed in 1926. Thereafter, a natural gas pipe line was run from Cabin Creek to Miles City and Terry, following the acquisition of the Miles City municipal light plant. This was completed in November, 1927. In May, 1928, the company acquired the entire common stock and a majority of the preferred stock of the consolidated utilities company serving Bismarck, Mandan and Valley City, N. Dak., with artificial gas. Thereafter, the Railroad Commission of North Dakota granted permission to construct a natural gas pipe line from Beach to Fargo, N. Dak., along the Northern Pacific Railway.

The Gas Development Co. was organized in Delaware in 1926 to own and operate natural gas fields in southeastern Montana and northwestern South Dakota. This company controls 120,000 acres of gas lands with pipe lines running through the field, and has drilled 35 gas wells with an open flow in excess of 120,000,000 feet a day. The company sells natural gas to the Montana-Dakota Power Co. and the Black Hills Utilities Co.

The latter company was organized in May, 1928, in Delaware, and immediately thereafter secured gas franchises in Rapid City, Lead, Deadwood, Belle Fourche, Spearfish, Sturgis, and other communities in the Black Hills, South Dakota, and a pipe line then was constructed from Cabin Creek through the Black Hills to Rapid City. This was completed in 1928. Combined assets of the Minnesota Northern Power Co. and its associate companies, following later acquisitions of natural gas properties at Havre and Chinook, Mont., were approximately $17,000,000.

HOUSTON PIPE LINE CO. HAS SEVERAL PROJECTS

HOUSTON, Tex., Oct. 21.—Recently the Houston Pipe Line Co. announced it would start immediately laying 13 miles of 12¾-inch line from Boling to Long Point to serve the new sulphur plant to be built there by the Texas Gulf Sulphur Co. The past week the company started preliminary surveys for further extension of this new line from Long Point to a connection with the company's line from Freeport to Houston, a distance of about 35 miles.

The laying of this line will give the company three lines, the trunk line and two loops, from Southwest Texas to Houston. Last year the company completed one loop leaving the main line to pass south through Bay City and into Freeport to connect with a line from Houston to Freeport. The second loop consists of a line laid this year, leaving the trunk near the town of Wharton and at present ending at the Boling Sulphur mines but which is now to be extended to Long Point and thence into Houston by way of the Freeport branch.

The Houston Pipe Line Co. has several other projects under way including the laying of 12 miles of 4-inch pipe from the Houston-Freeport line to the town of Angleton, Brazoria County, passing through Danbury, where Shell Petroleum Corp. is to use gas supplied by the Houston Pipe Line Co. in drilling a deep wildcat on a recently discovered salt dome prospect.

The company also is preparing to lay 12 miles of 6-inch line from the Bruni Field in Southwest Texas to the Kohler-Din ranches, and probably soon will have to put in a line from the main trunk line to the town of Talfurrias, where the Houston Natural Gas Co. has just been given a franchise to distribute natural gas. The latter company is the distributing company and the Houston Pipe Line Co. the transportation company of the Buckner interests.

NEARING COMPLETION

LOS ANGELES, Calif., Oct. 20.—The Pacific Gas & Electric Co. has begun welding together the natural gas pipe line into Buttonwillow and indications are the line will be completed on schedule. Work on the line started six months ago. It runs from San Jose into Kettleman Hills where gas from the Milham Exploration Co.'s No. 1 Elliott discovery well is being utilized. Upon its completion to Buttonwillow, approximately 70,000,000 feet of gas a day will be available as eight Milham gas wells are capped there.

The Pacific Gas & Electric Co. has ordered pipe for construction of a paralleling natural gas line to run from its compressor station at Kettleman Hills to Stockton and thence to Sacramento to take gas from the Milham Exploration Co.'s gas wells.

This line will parallel the line now nearing completion from San Jose to Buttonwillow and will cost approximately $12,000,000. It will run through Panoche Pass and then go inland and on to Vallejo, thence to Stockton and to Sacramento.

MOUNT PLEASANT LINE POSSIBLE

MUSKEGON, Mich., Oct. 21.—The Pure Oil Co. may build a 40-mile line from its production in the Mount Pleasant, Mich., Field to Bay City, Mich., but nothing definite has yet been determined.

PROGRESS ON PIPE LINES IN THE TEXAS FIELDS

FORT WORTH, Tex., Oct. 21.—The Gulf Pipe Line Co. is laying 9 miles of 6-inch line from its 10-inch main line running from Midland to Ranger, and will take crude oil from the main line for its Sweetwater refinery, through this new tap. Heretofore the refinery has been taking crude directly from the main line which runs near the refinery, but this has been found to be rather unsatisfactory, consequently the new 6-inch is being constructed. The refinery has been taking around 7,000 bbls. daily from the main trunk line.

The Texas Pipe Line Co. has completed its 6-inch line from its tank farm at Crossett, Tex., to the new Girvin Pool in Pecos County, which was recently opened by the Rowan and Tong discovery well on the McDonald farm in Section 46, Block 12, H.&G.N. Survey, about 14 miles southwest of McCamey, Tex. So far no oil has been run from this area through the new line, but as storage is practically full and the well, producing around 100 bbls. daily, only allowed to produce part of the time each day, the crude will no doubt be started on its way to Crossett to the tank farm and into The Texas Company's main trunk line running through that place from Jal, N. Mex., to Port Arthur, Tex.

The Landreth Production Co. has 8-inch pipe on the ground for its line to be run from loading rack and tank farm at Crossett to the Taylor-Link Pool, and this line should be completed in about 10 days, the distance between the loading rack and pool being about 15 miles. This will give the second outlet for this pool, the other line being a 6-inch to McCamey, belonging to the Humble Pipe Line Co. This line has been running oil from the pool for over a month.

LULING-DARST CREEK LINE

HOUSTON, Tex., Oct. 21.—The Texas Pipe Line Co. has started laying pipe on the project which, when completed, will connect the Luling and Darst Creek Fields of Caldwell and Guadalupe Counties with its trunk line from West Texas to Port Arthur. The new line, which will extend from Sullivan to the Rosanky station, will necessitate the laying of 40 miles of 6-inch pipe.

With the laying of the new line, the Texas Pipe Line Co. will be able to abandon its loading racks at Sullivan, where Darst Creek oil has been loaded out since the completion some time ago of the company's line from Darst Creek to Sullivan. The new line will be connected with the Darst Creek-Sullivan line at Sullivan, and through it all the runs from the Luling and Darst Creek areas will be batched through the West Texas system to Port Arthur.

ACROSS MISSISSIPPI RIVER

NEW YORK, Oct. 21.—Ford, Bacon & Davis, Inc., have completed the work of laying the six pipe lines for the Southern Natural Gas Corp. across the channel in the Mississippi River. The line is being built from the Monroe and Richland gas fields in Louisiana through Mississippi and Alabama to Atlanta, Ga. The crossing of the Mississippi was made at Point Lookout, La., to the Mississippi side, the channel at that point being approximately 2,200 feet in width.

Work is progressing rapidly on other sections of the initial system, it is announced. This system, with branch and feeder lines, will be approximately 830 miles of pipe, and is expected to be completed and in operation by January 1, 1930.

TAYLOR-LINK LINE

HOUSTON, Tex., Oct. 21.—The Texas Pipe Line Co. has completed laying a 6-inch line from McCamey, on its West Texas-Port Arthur system, to a point near the new Taylor-Link Pool of Pecos County. So far there has been no oil for the line to run as The Texas Company has no production of its own and other oil produced is being held.

TO START CONSTRUCTION ON KETTLEMAN LINE

LOS ANGELES, Calif., Oct. 19.—With a capacity of 125,000,000 feet of Kettleman Hills natural gas for distribution in the Los Angeles district, the Southern California Gas Co. will immediately start construction of a 20-inch pipe line from the new Kettleman Hills oil fields to Elk Hills in Kern County where the line will be tied in with two natural gas transmission lines to the southern part of the State.

The job will represent an investment of $2,500,000 and it will become a part of the Elk Hills transmission lines now in operation. The feeder line to be built from the north will be 74 miles in length between Kettleman Hills and Elk Hills, and it will help in the plans for rapid extension of lines to all parts of the State for distribution of the gas from the new field.

The construction job will begin on November 1, and it is hoped to have it completed within 60 days. The Southern California Gas Co. has contracts for natural gas from nearly every producer and prospective producer in the Kettleman Hills district, and it also holds contracts for gas from the Elk Hills natural gas field, one of the greatest in the State for the past 10 years.

This transmission line will have a capacity of 85,000,000 cubic feet of gas per day with an initial pressure of 400 pounds and makes available a new source of supply of natural gas for Los Angeles and other southern California cities.

SURVEY FOR KENTUCKY LINE

The Missouri-Kansas Pipe Line Co. is surveying through Ohio and Hancock Counties, Kentucky, crossing the Ohio River at Hawesville, continuing through Cannelton to Tell City, Ind. The projected pipe line commences at Deanefield, Ohio County, Kentucky, and terminates at Tell City, Ind. Six-inch pipe will be used throughout in the construction of this line, which is to supply Kentucky natural gas for industrial and domestic purposes in towns and cities of southern Indiana. Allen A. Buckner, Owensboro, Ky., has charge of this extensive survey.

GULF PIPE LINE FARM

The Gulf Pipe Line Co., subsidiary of the Gulf Oil Corp., has purchased 308 acres adjoining its tank farm south of Lucas, Tex., for a reported price of $140,000, and will erect ten 80,000-bbl. steel storage tanks on the property, increasing its storage capacity at the farm to 77 tanks.

TO SUPPLY FARMINGTON

The Southern Union Gas Co., which recently obtained a franchise to supply Farmington, N. Mex., with natural gas from the wells in Kutz Canon, has commenced construction work. The pipe is being strung and ditching work is in progress. It is expected that gas will be turned into the new line by December 1.

SCREW WELDED OR COUPLED TYPE

SHEEHAN

WE are prepared to handle any size pipe line construction job with speed and efficiency. Executed by men of long experience working with the leading companies in the Industry.

PIPE LINE CONSTRUCTION COMPANY

TULSA, OKLAHOMA

Bureau of Mines Report for Year 1928

Total Production of Crude Petroleum Established New High Record. Price of Crude Was Lowest Since 1916

According to final figures compiled by the Bureau of Mines, Department of Commerce from the annual canvass of producing and pipeline companies, the production of crude petroleum in the United States during 1928 amounted to 901,474,000 bbls. This comprised by far the major portion of the new supply in 1928, the remainder consisting of 42,326,000 bbls. of natural gasoline and 2,809,000 bbls. of benzol. In addition, 91,557,000 bbls. of crude and refined oils were imported, making a total new supply of 1,038,166,000 bbls., an increase over 1927 of 2 per cent. Stocks of all oils increased 22,582,000 bbls. during the year and amounted to 619,725,000 bbls. on December 31. This was a relatively better showing than in the previous year, when 70,103,000 bbls. was added to storage. Subtracting the 1928 additions to storage and exports of 154,449,000 bbls. from the total supply gives a total domestic consumption of 861,135,000 bbls. This compared with 802,946,000 bbls. in 1927, a gain of 7 per cent.

As noted above, the total production of crude petroleum in the United States during 1928 amounted to 901,474,000 bbls., a new record. This compares with 901,129,000 bbls. in 1927, a gain of 345,000 bbls., or .04 per cent. The growth in comparative importance of light or high gravity crudes was continued in 1928, when 89 per cent of the total output was of this class as compared with 88 per cent in 1927.

The output of 1928 was undoubtedly influenced by steps taken to regulate output. The majority of these efforts were begun late in 1927 and were most effectively applied during the first six months of 1928. Because of individual needs for oil and other factors, proration and restriction failed gradually in effectiveness in the last half of the year and production rose accordingly. The most effective proration was practiced in West Texas. Some effective regulation was practiced in California, particularly that which kept a large number of heavy-oil wells shut in and caused a curtailment in drilling for this grade of oil. In Oklahoma a

BUREAU OF MINES ANNUAL REPORT FOR 1928 ON PETROLEUM, PETROLEUM PRODUCTS AND NATURAL GASOLINE
Prepared under the supervision of G. R. Hopkins, Petroleum Economics Division, Bureau of Mines, Department of Commerce. E. B. Swanson, Acting Chief Economist.

SUMMARY OF SUPPLY AND DEMAND OF ALL OILS IN 1928, BY MONTHS
(Including wax, coke, and asphalt in thousands of barrels of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
NEW SUPPLY:														
Domestic production:														
Crude petroleum	72,793	68,565	74,528	72,393	75,277	72,676	75,584	77,807	76,484	79,751	76,123	79,493	901,474	901,129
Daily average	2,348	2,364	2,404	2,413	2,428	2,423	2,438	2,510	2,549	2,573	2,537	2,564	2,463	2,469
Natural gasoline	3,414	3,326	3,474	3,464	3,493	3,364	3,436	3,438	3,488	3,731	3,769	3,929	42,326	38,657
Benzol	226	216	239	229	238	231	229	233	231	245	240	252	2,809	2,562
Total production	76,433	72,107	78,241	76,086	79,008	76,271	79,249	81,478	80,203	83,727	80,132	83,674	946,609	942,348
Daily average	2,466	2,486	2,524	2,536	2,549	2,542	2,556	2,628	2,673	2,701	2,671	2,699	2,586	2,582
Excess of daily average domestic production over domestic demand	514	366	346	292	226	198	66	85	88	157	217	251	233	382
Imports*: Crude	6,330	6,036	6,845	5,661	6,766	6,553	7,878	6,141	7,139	6,703	6,908	6,807	79,767	58,383
Refined	1,165	1,055	1,134	1,680	1,162	712	782	1,007	598	771	728	996	11,790	13,353
Total new supply all oils	83,928	79,198	86,220	83,427	86,936	83,536	87,909	88,626	87,940	91,201	87,768	91,477	1,038,166	1,014,084
Daily average	2,707	2,731	2,781	2,781	2,804	2,785	2,836	2,859	2,931	2,942	2,926	2,951	2,837	2,778
Change in stocks all oils	10,451	6,875	5,919	2,982	414	†883	†3,687	†2,886	†2,409	39	1,145	4,622	22,582	70,103
DEMAND:														
Total demand	73,477	72,323	80,301	80,445	86,522	84,419	91,596	91,512	90,349	91,162	86,623	86,855	1,015,584	943,981
Daily average	2,370	2,494	2,590	2,682	2,791	2,814	2,955	2,952	3,012	2,941	2,887	2,802	2,775	2,586
Exports* Crude	1,225	1,243	1,530	1,303	1,493	1,879	1,669	1,883	1,506	2,015	1,691	1,529	18,966	15,844
Refined	11,747	9,598	11,250	11,810	13,018	12,222	12,731	10,810	11,288	10,271	11,299	9,439	135,483	125,191
Domestic demand	60,505	61,482	67,521	67,332	72,011	70,318	77,196	78,819	77,555	78,876	73,633	75,887	851,135	802,946
Daily average	1,952	2,120	2,178	2,244	2,323	2,344	2,490	2,543	2,585	2,544	2,454	2,448	2,353	2,200
STOCKS (end of month):														
Crude:														
East of Calif.: Pipe line, tank farm and refinery	359,363	363,859	369,439	372,077	372,017	371,475	369,474	368,707	366,720	367,949	367,622	368,353	368,353	352,038
Producers'	7,450	7,370	7,284	7,201	7,115	7,032	6,946	6,860	6,777	6,691	6,608	6,521	6,521	7,536
California: Light	20,562	20,142	19,579	18,782	19,470	19,197	18,215	18,310	16,870	16,684	16,524	16,995	16,995	20,086
Heavy‡	94,337	94,828	94,516	94,359	93,871	94,234	95,663	95,057	96,563	97,025	97,439	98,919	98,919	93,719
Total crude‡	481,712	486,199	490,818	492,419	492,473	491,938	490,298	488,934	486,930	488,349	488,193	490,788	490,788	473,379
Natural gasoline at plants	740	824	843	831	810	648	476	414	436	402	405	407	407	734
Refined products	125,142	127,446	128,727	130,120	130,501	130,315	128,440	126,980	126,553	125,207	126,505	128,530	128,530	123,030
Grand total stocks all oils	607,594	614,469	620,388	623,370	623,784	622,901	619,214	616,328	613,919	613,958	615,103	619,725	619,725	597,143
Days' supply§	256	246	240	232	223	221	210	209	204	209	213	221	223	231
Bunker oil* (included above in domestic demand)	3,930	3,751	4,236	4,275	5,013	4,307	4,116	4,564	4,053	4,558	4,235	4,188	51,226	50,051

*From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii, and Porto Rico. †Decrease. ‡Includes fuel oil in California. §Grand total stocks divided by daily average total demand.

CRUDE PETROLEUM PRODUCED IN THE UNITED STATES IN 1928, BY STATES
(Thousands of barrels of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Arkansas	2,716	2,569	2,693	2,396	2,826	3,070	2,791	2,682	2,556	2,647	2,601	2,543	32,096	40,005
California*	18,969	18,066	19,082	18,292	19,308	19,195	19,737	19,499	18,905	19,381	19,856	21,521	231,811	231,196
Colorado	224	232	264	224	226	229	252	245	212	232	221	213	2,774	2,831
Illinois	510	516	635	468	573	550	551	573	506	558	508	514	6,462	6,994
Indiana:	77	83	78	83	90	86	88	94	89	96	93	95	1,052	852
Southwestern	70	75	71	75	81	78	81	86	82	88	87	89	963	726
Northeastern	7	8	7	8	9	8	7	8	7	8	6	6	89	126
Kansas	3,362	3,248	3,551	3,422	3,444	3,274	3,283	3,222	2,912	3,073	2,828	2,967	38,596	41,069
Kentucky	542	558	623	618	653	563	681	662	594	660	608	597	7,359	6,719
Louisiana	1,808	1,696	1,779	1,746	1,830	1,995	2,016	2,018	1,779	1,747	1,717	1,716	21,847	22,818
Gulf Coast†	434	431	477	439	487	774	797	796	644	575	580	619	7,053	5,050
Rest of state	1,374	1,265	1,302	1,307	1,343	1,221	1,219	1,222	1,135	1,172	1,137	1,097	14,794	17,768
Michigan	31	30	29	37	46	50	56	46	37	73	88	71	594	439
Montana	378	350	358	321	347	309	295	347	336	308	316	350	4,015	5,058
New Mexico	78	65	75	71	72	63	88	83	65	88	89	106	943	1,226
New York	185	181	195	192	211	225	200	230	219	249	251	265	2,603	2,242
Ohio:	562	564	618	584	646	620	614	610	538	599	528	532	7,015	7,593
Central and Eastern	445	441	480	455	492	471	462	473	416	466	418	415	5,434	5,884
Northwestern	117	123	138	129	154	149	152	137	122	133	110	117	1,581	1,709
Oklahoma:	21,040	19,166	19,980	18,921	19,745	19,009	19,175	21,363	22,796	23,862	22,040	22,760	249,857	277,775
Osage	1,815	1,879	1,993	1,765	1,721	1,588	1,599	1,561	1,431	1,497	1,403	1,415	19,667	23,586
Rest of state	19,225	17,287	17,987	17,156	18,024	17,421	17,576	19,802	21,365	22,365	20,637	21,345	230,190	254,189
Pennsylvania	768	770	842	792	884	836	838	860	795	893	828	850	9,956	9,526
Tennessee	2	4	5	4	5	2	5	8	4	2	3	2	46	60
Texas:	19,351	18,468	21,330	22,048	21,949	20,295	22,597	22,870	21,888	22,819	21,378	22,327	257,320	217,389
Gulf Coast†	3,283	2,891	3,248	3,193	3,588	3,259	3,358	3,354	3,199	3,449	3,268	3,448	39,538	47,019
West Texas	8,119	8,272	10,279	11,426	10,735	9,487	11,284	11,210	10,760	10,924	10,245	10,799	123,540	51,538
Rest of State	7,949	7,305	7,803	7,429	7,626	7,549	7,955	8,306	7,929	8,446	7,865	8,080	94,242	118,832
West Virginia	460	460	502	451	519	471	481	489	444	506	444	434	5,661	6,023
Wyoming:	1,730	1,539	1,873	1,722	1,902	1,833	1,835	1,905	1,808	1,958	1,726	1,630	21,461	21,307
Salt Creek	1,291	1,090	1,180	1,148	1,260	1,247	1,189	1,190	1,148	1,213	1,064	1,003	14,023	14,399
Rest of state	439	449	693	574	642	586	646	715	660	745	662	627	7,438	6,908
Alaska and Utah	....	....	....	1	1	1	1	1	1	....	....	....	6	7
Total	72,793	68,565	74,528	72,393	75,277	72,676	75,584	77,807	76,484	79,751	76,123	79,493	901,474	901,129
Daily average	2,348	2,364	2,404	2,413	2,428	2,423	2,438	2,510	2,549	2,573	2,537	2,564	2,463	2,469
Classified by gravity (approx.): Light	64,209	60,365	65,812	64,964	67,691	65,131	67,746	69,959	69,043	71,581	67,901	71,132	805,534	788,794
Heavy	8,584	8,200	8,716	7,429	7,586	7,545	7,838	7,848	7,441	8,170	8,222	8,361	95,940	112,335

*Annual and semiannual figures from Division of Mines and Mining, Department of Natural Resources, California. Monthly figures prorated on basis of monthly reports by the American Petroleum Institute. †Salt dome pools.

number of fields were held back, particularly in the spring of the year.

Texas Led in Production

Texas, with an output of 257,320,000 bbls. was for the first time the leading producing State. Oklahoma dropped from first to second and California from second to third. These three States combined produced 738,988,000 bbls. of crude petroleum in 1928, equivalent to 82 per cent of the total. Production in West Texas increased approximately 150 per cent in 1928, which more than compensated for declines in the Panhandle and Gulf and Central areas of the State.

The largest factor in the decrease in Oklahoma was the decline in the Seminole area, which, however, exceeded expectations by producing about 110,000,000 bbls. in 1928. Production in California increased slightly in 1928, the credit being due principally to successful deep drilling at Long Beach and to the exploitation of deeper zones at Santa Fe Springs late in the year. Though production in Kansas, which ranked fourth in production, declined in 1928, the prospects for a material gain in 1929 were increased by important discoveries near Wichita late in 1928. The Champagnolle Field did not meet expectations and the output of Arkansas again declined. Production in the Central States—Illinois, Indiana and Ohio—and in the Rocky Mountain area fell off in 1928, but the output of the Appalachian district continued to increase. The latter area was the only section of the country to be favored with a material increase in prices in 1928, which, in turn, stimulated drilling.

Increase in Imports.

Imports of crude petroleum increased materially in 1928, when they amounted to 79,767,000 bbls., as compared with 58,383,000 bbls. the year previous. Imports from Mexico again fell off but those from Venezuela more than doubled. The movement of crude oil through the Panama Canal from California to eastern ports in the United States declined almost to the point of extinction.

Stocks of crude petroleum held by refiners east of California on December 31, 1928 amounted to 40,529,000 bbls., an increase of roughly 1,200,000 bbls. during the year. Other classes of crude stocks east of California, including producers stocks, increased approximately 14,100,000 bbls., making a total in-

CRUDE PETROLEUM PRODUCED IN UNITED STATES IN 1928 BY FIELDS
(Thousands of barrels of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Appalachian	2,402	2,414	2,647	2,512	2,764	2,568	2,667	2,722	2,472	2,776	2,552	2,563	31,059	30,454
Lima-Indiana	124	131	145	137	163	157	159	145	129	141	116	123	1,670	1,835
Michigan	31	30	29	37	46	50	56	46	37	73	88	71	594	439
Illinois and Southwest Indiana	580	591	706	543	654	628	632	659	588	646	595	603	7,425	7,720
Mid-Continent	44,560	41,825	45,624	44,901	45,719	43,610	45,707	48,005	48,088	50,124	46,716	48,246	553,125	546,987
Gulf Coast	3,717	3,322	3,725	3,632	4,075	4,033	4,155	4,150	3,843	4,024	3,848	4,067	46,591	52,069
Rocky Mountain*	2,410	2,186	2,570	2,339	2,548	2,435	2,471	2,581	2,422	2,586	2,352	2,299	29,199	30,429
California	18,969	18,066	19,082	18,292	19,308	19,195	19,737	19,499	18,905	19,381	19,856	21,521	231,811	231,196
Total	72,793	68,565	74,528	72,393	75,277	72,676	75,584	77,807	76,484	79,751	76,123	79,493	901,474	901,129

*Includes Alaska and Utah.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM*
(Thousands of barrels of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Imports:	6,330	6,036	6,845	5,661	6,766	6,552	7,878	6,141	7,139	6,703	6,908	6,807	79,767	58,383
From Venezuela	3,283	3,574	3,585	3,397	4,083	3,727	4,808	3,601	4,347	4,227	3,954	4,091	46,977	21,560
From Mexico	1,465	963	1,542	1,204	1,773	1,704	1,496	1,366	1,578	1,240	1,960	1,293	17,584	26,019
From Colombia	1,141	1,499	1,199	790	855	880	1,271	807	1,086	759	324	1,227	11,838	7,962
From Peru	271	.....	.....	157	.....	163	102	246	.....	120	165	.....	1,224	1,887
From other countries	170	.....	219	113	55	79	201	121	128	357	505	196	2,144	955
Exports:	1,225	1,243	1,530	1,303	1,493	1,879	1,669	1,883	1,506	2,015	1,691	1,529	18,966	15,844
Domestic oil:														
To Canada	865	998	1,298	931	1,243	1,463	1,377	1,724	1,272	1,632	1,292	1,336	15,431	13,036
To other countries	360	245	231	372	250	416	292	159	230	383	399	193	3,530	2,808
Shipments	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	4	.....
Foreign oil	.....	.....	1	.....	.....	.....	.....	.....	(†)	.....	.....	.....	1	(†)
California crude oil‡	480	502	644	501	412	421	495	368	499	436	510	414	5,632	5,256

*Bureau of Foreign and Domestic Commerce. †Less than 500 barrels. ‡Included in total exports of domestic crude.

WELLS DRILLED FOR OIL AND GAS IN THE UNITED STATES IN 1928*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Oil	765	849	946	962	970	1,060	1,093	1,233	1,185	1,206	1,187	1,070	12,526	14,442
Gas	212	210	221	230	213	198	212	229	231	284	258	229	2,727	2,491
Dry	444	530	556	634	588	658	590	620	627	595	621	605	7,078	7,210
Total	1,421	1,589	1,723	1,826	1,771	1,916	1,895	2,082	2,053	2,085	2,066	1,904	22,331	24,143

*For states east of California, from The Oil and Gas Journal; for California, from the American Petroleum Institute.

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES
(Thousands of barrels of 42 U. S. gallons)

	Jan. 31, 1928	Feb. 28	Mar. 31	Apr. 30	May 31	June 30	July 31	Aug. 31	Sept. 30	Oct. 31	Nov. 30	Dec. 31 1928	Dec. 31, 1927
EAST OF CALIFORNIA:													
At refineries: By location of storage:													
East Coast:													
Domestic	8,469	8,463	8,706	7,979	7,778	8,409	8,698	9,154	8,053	8,235	8,243	8,496	8,690
Foreign	4,004	4,323	5,414	5,866	6,140	5,862	5,349	4,946	3,964	3,686	3,773	4,306	2,768
Appalachian	1,883	1,956	2,060	2,166	2,266	2,242	2,186	2,258	2,185	2,311	2,235	2,183	1,871
Indiana, Illinois, Kentucky, etc.	2,812	2,904	3,015	3,148	3,097	2,957	3,053	2,891	2,759	2,931	2,982	2,939	2,777
Oklahoma, Kansas and Missouri	5,655	5,888	5,759	5,889	6,193	5,662	5,688	5,208	5,247	5,329	5,849	5,530	4,871
Texas:													
Inland	1,484	1,554	1,665	1,558	1,790	1,927	1,863	1,926	1,767	1,712	1,885	2,184	1,432
Gulf Coast: Domestic	8,006	7,996	7,868	8,132	8,110	8,469	8,152	7,814	8,189	7,663	7,399	7,206	7,686
Foreign	153	263	383	243	111	102	150	54	128	158	179	207	219
Arkansas and Inland Louisiana	441	578	654	684	797	881	840	882	852	936	1,098	758	408
Louisiana Gulf Coast:													
Domestic	5,886	6,063	5,859	5,343	4,722	4,149	4,462	4,690	4,656	4,220	3,954	3,315	6,149
Foreign	1,289	1,230	1,080	1,053	979	970	1,194	1,049	1,117	1,031	1,153	1,259	1,046
Rocky Mountain	1,498	1,610	1,655	1,541	1,430	1,488	1,440	1,545	1,680	1,774	2,017	2,046	1,400
Total	41,580	42,628	44,118	43,602	43,413	43,118	43,075	42,417	40,597	39,806	40,767	40,529	39,317
Pipe line and tank farm stocks (net):													
Domestic. By field of origin:													
N. Y., Pa., W. Va., East. and Central Ohio	6,160	6,240	6,181	5,959	5,977	6,068	5,910	5,657	5,375	5,270	5,023	4,751	6,294
Kentucky	1,048	1,063	1,121	1,208	1,200	1,097	1,139	1,040	845	834	810	764	1,040
Lima-Indiana	1,128	1,153	1,210	1,196	1,234	1,267	1,333	1,348	1,346	1,335	1,214	1,162	1,134
Illinois-Southwest Indiana	12,122	12,039	12,208	12,217	12,273	12,200	12,049	11,909	11,527	11,440	11,260	11,367	12,170
Okla., Kans., Panhandle, Central, North and West Tex.	225,964	229,736	234,613	237,530	237,727	236,770	235,087	235,597	236,105	238,241	238,581	239,345	221,466
Northern Louisiana and Arkansas	25,837	26,131	25,735	26,286	26,358	26,747	26,621	26,176	26,125	26,072	25,638	26,403	25,373
Gulf Coast	18,161	17,458	16,818	16,669	16,596	17,030	17,235	17,813	18,308	18,753	18,373	18,272	17,922
Rocky Mountain	27,280	27,164	27,315	27,291	27,130	27,036	26,943	26,665	26,295	25,991	25,714	25,501	27,238
Total	317,700	320,974	325,201	328,356	328,495	328,215	326,317	326,205	325,926	327,936	326,613	327,565	312,637
Foreign:													
Atlantic Coast	40	43	75	65	58	91	40	23	43	52	67	49	46
Gulf Coast	43	14	45	54	51	51	42	62	154	155	175	210	38
Total	83	57	120	119	109	142	82	85	197	207	242	259	84
Producers' stocks	7,450	7,370	7,284	7,201	7,115	7,032	6,946	6,860	6,777	6,691	6,608	6,521	7,536
Total stocks east of California	366,813	371,229	376,723	379,278	379,132	378,507	376,420	375,567	373,497	374,640	374,230	374,874	359,574
CLASSIFICATION BY GRAVITY (approx.):													
East of California:*													
Light crude (24 degrees and above)	309,475	313,137	318,261	319,770	320,429	319,585	318,087	317,538	317,203	319,221	319,199	319,928	303,539
Heavy crude (below 24 degrees)	49,888	50,722	51,178	52,307	51,588	51,890	51,387	51,169	49,517	48,728	48,423	48,425	48,499
California:													
Light (20 degrees and above)	20,562	20,142	19,579	18,782	19,470	19,197	18,215	18,310	16,870	16,684	16,524	16,995	20,086
Heavy (including fuel oil)	94,337	94,828	94,516	94,359	93,871	94,234	95,663	95,057	96,563	97,025	97,439	98,919	93,719

*Exclusive of producers' stocks.

INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS
(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by field of origin:	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Appalachian	2,530	2,321	2,650	2,650	2,755	2,583	2,785	3,076	2,952	2,895	2,826	2,885	32,908	30,915
Lima-Indiana	130	107	88	152	125	125	93	130	132	153	238	176	1,649	1,366
Michigan	31	30	29	37	47	50	56	46	37	73	88	71	595	435
Illinois and Southwest Indiana	629	674	538	534	599	701	784	799	970	733	775	496	8,232	7,317
Mid-Continent	39,660	37,818	41,205	41,493	45,512	44,238	47,578	48,003	47,691	48,104	46,870	46,779	534,951	471,941
Gulf Coast	3,486	4,032	4,373	3,788	4,156	3,606	3,958	3,580	3,355	3,586	4,235	4,176	46,331	54,479
Rocky Mountain*	2,381	2,323	2,422	2,375	2,722	2,541	2,577	2,872	2,804	2,902	2,641	2,524	31,084	31,391
Deliveries and exports	48,847	47,305	51,305	51,029	55,916	53,844	57,831	58,506	57,941	58,446	57,673	57,107	655,750	597,844
Deliveries	48,102	46,564	50,419	50,227	54,835	52,386	56,657	56,991	56,934	56,867	56,492	55,992	642,466	587,257
Foreign petroleum	6,331	6,062	6,781	5,662	6,776	6,520	7,938	6,138	7,027	6,693	6,873	6,790	79,591	58,908
Deliveries of domestic and foreign petroleum	54,433	52,626	57,200	55,889	61,611	58,906	64,595	63,129	63,961	63,560	63,365	62,782	722,057	646,165

*Includes Alaska and Utah.

crease of 15,300,000 bbls.—all in light crude stocks. Stocks of light crude in California again decreased but this was more than compensated by an increase in heavy crude and fuel oil stocks.

Low Average Price

The total value at the well of the crude petroleum produced in 1928 amounted to $1,054,880,000, an average of $1.17 per barrel. This represents the lowest average value per barrel since 1916, when the influence of Cushing had begun to wane. Montana was the only State, exclusive of a few in the Applachian district, which showed an increase in average value per barrel over 1927.

Refined Products

The consumption of crude petroleum at refineries in the United States continued to increase rapidly in 1928, when a total of 913,295,000 bbls. of crude petroleum was processed. Of this amount 835,711,000 bbls. was domestic crude petroleum and 77,584,000 bbls. was foreign crude petroleum. The figure for domestic crude represents an increase over 1927 of 7 per cent, that of foreign crude petroleum, an increase of 55 per cent. Notwithstanding the rapid increase in production of domestic crude in recent years, this was the third successive year in which the annual percentage increase in use of foreign crude has exceeded the increase in consumption of domestic crudes. As a further illustration of the rapid growth in consumption of foreign crude, it may be cited that the demand for domestic crude on the Atlantic seaboard was less in 1928 than in 1927. Daily average runs to stills of both types of crude increased steadily, beginning with February, and reached a peak of 2,663,000 bbls. in September. All of the 10 major refining districts of the country recorded increases in crude runs to stills in 1928, with the Indiana-Illinois-Kentucky district reporting the largest percentage gain and California the smallest.

Motor Fuel Increase.

The production of motor fuel in the United States during 1928 amounted to 16,001,600,000 gallons, or 380,990,000 bbls. Of this amount 2,809,000 bbls. represents an estimated figure for the benzol produced at by-product coke plants and blended with motor fuel; 636,000 bbls. represents natural gasoline blended at the plants, and 600,000 bbls.

(Continued on Page 140)

SHIPMENTS OF OIL FROM CALIFORNIA TO EASTERN PORTS IN THE UNITED STATES VIA PANAMA CANAL*

(Thousands of barrels of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
Crude oil	234	415	423	234	162	182	241	163	100	.....	147	.....	2,301	10,692
Refined products:														
Gasoline, naphtha, etc.	1,072	910	1,150	1,182	1,386	1,589	1,745	1,700	1,269	1,601	1,288	1,887	16,779	11,675
Tops	.....	.....	.....	.....	76	.....	95	88	.....	80	.....	.....	339	.....
Kerosene	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	74
Gas oil	267	93	257	93	251	.....	362	165	79	245	262	250	2,324	3,154
Diesel oil	45	.....	.....	77	.....	.....	.....	.....	.....	38	20	.....	180	1,043
Fuel oil	2	79	196	266	86	80	2	2	2	128	2	3	848	7,010
Lubricants	85	1	69	70	1	.....	1	5	24	4	73	2	335	355
Asphalt	1	2	6	1	1	2	1	3	3	4	3	2	29	17
Total refined	1,472	1,085	1,678	1,689	1,801	1,672	2,206	1,963	1,377	2,100	1,648	2,144	20,835	23,328
Total all oils	1,706	1,500	2,101	1,923	1,963	1,854	2,447	2,126	1,477	2,100	1,795	2,144	23,136	34,020

*Compiled by the San Francisco office of the Bureau of Mines.

VALUE OF CRUDE PETROLEUM AT WELLS, 1928-1927, AND NUMBER OF PRODUCING OIL WELLS IN THE UNITED STATES, DECEMBER 31, 1928 AND 1927

	Value at wells				Producing oil wells in the United States December 31, 1928 and 1927			
	1928		1927		1928		1927	
	Total	Average per barrel	Total	Average per bbl.	Number of wells	Average per well per day* (bbls.)	Number of wells	Average per well per day* (bbls.)
Alaska	†		†		†		†	
Arkansas	$27,450,000	$0.86	$42,400,000	$1.06	4,520	19.3	4,550	24.2
California	230,000,000	.99	‡260,735,000	1.13	§10,710	57.6	§11,280	55.9
Colorado	2,750,000	.99	3,400,000	1.20	210	39.9	170	51.7
Illinois	9,980,000	1.54	11,700,000	1.67	16,340	1.1	16,240	1.2
Indiana:								
Southwestern	1,470,000	1.53	1,200,000	1.65	1,140	2.3	1,100	1.9
Northeastern	110,000	1.24	190,000	1.51	900	.3	960	.3
Total Indiana	1,580,000	1.50	1,390,000	1.63	2,040	1.4	2,060	1.1
Kansas	52,500,000	1.36	58,300,000	1.42	19,800	5.4	19,600	5.8
Kentucky	11,850,000	1.61	11,220,000	1.67	13,740	1.5	13,500	1.4
Louisiana:								
Gulf Coast	8,150,000	1.16	6,110,000	1.21	320	67.6	250	56.5
Rest of State	17,700,000	1.20	23,630,000	1.33	3,500	10.8	4,000	12.2
Total Louisiana	25,850,000	1.18	29,740,000	1.30	3,820	14.8	4,250	14.8
Michigan	920,000	1.55	832,000	1.90	400	4.6	300	6.2
Montana	6,400,000	1.59	7,090,000	1.40	1,100	10.5	980	15.3
New Mexico	1,280,000	1.36	1,680,000	1.37	260	10.1	250	14.0
New York	8,750,000	3.36	7,110,000	3.17	16,500	.4	16,740	.4
Ohio:								
Central and Eastern	11,950,000	2.20	11,900,000	2.02	20,950	.7	20,100	.8
Northwestern	2,520,000	1.59	3,070,000	1.80	16,950	.3	17,500	.3
Total Ohio	14,470,000	2.06	14,970,000	1.97	37,900	.5	37,600	.5
Oklahoma	347,600,000	1.39	397,200,000	1.43	62,900	11.0	61,750	12.3
Pennsylvania	32,550,000	3.27	29,150,000	3.06	78,600	.3	78,480	.3
Tennessee	70,000	1.52	90,000	1.50	†	..	†	..
Texas:								
Gulf Coast	47,000,000	1.19	61,140,000	1.30	2,850	39.6	2,600	50.3
Rest of State	189,300,000	.87	187,410,000	1.10	32,900	19.1	29,400	16.7
Total Texas	236,300,000	.92	248,550,000	1.14	35,750	20.8	32,000	19.5
Utah	†		†		†		†	
West Virginia	17,150,000	3.03	17,410,000	2.89	19,600	.8	19,900	.8
Wyoming	27,400,000	1.28	29,830,000	1.40	3,520	16.6	3,560	16.8
Other	¶30,000	5.00	¶53,000	4.71	¶90	..	¶90	
	1,054,880,000	1.17	1,172,830,000	1.30	327,800	7.6	323,300	7.7

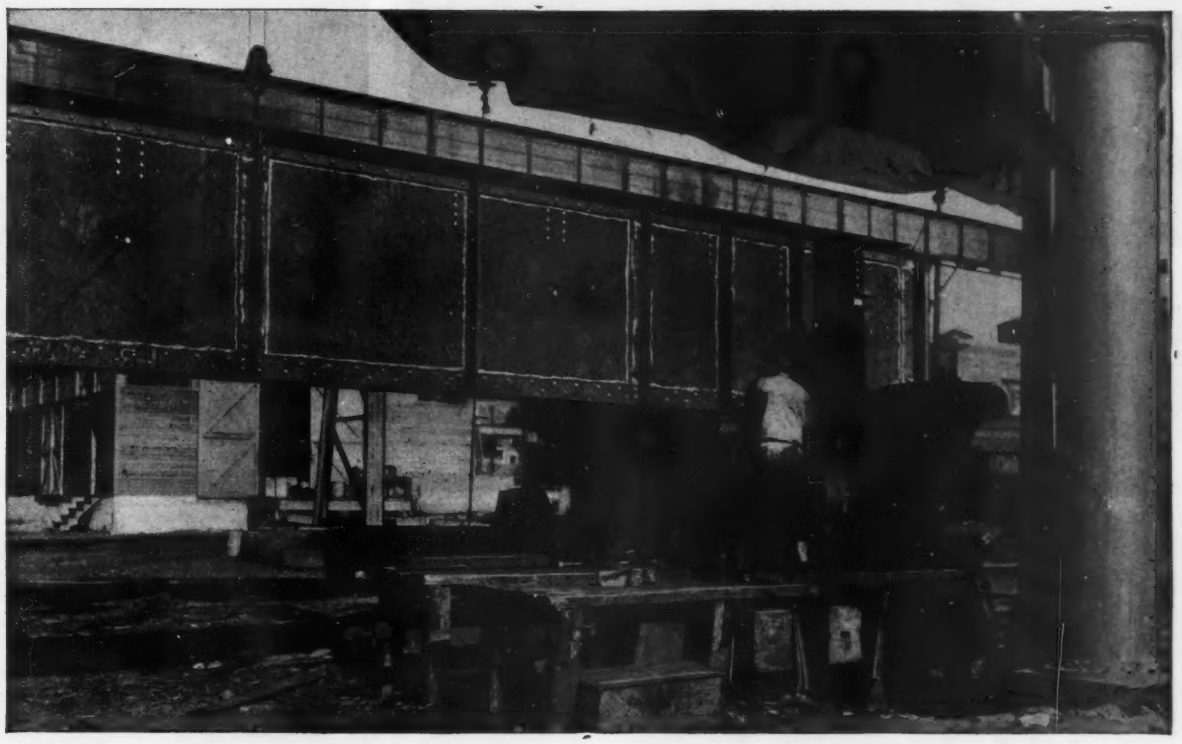
*Based on average for year. †Included in "Other." ‡Division of Mines, Department of Natural Resources, California. §From American Petroleum Institute. ¶Alaska and Utah. ‖Alaska, Tennessee and Utah.

PRODUCTION AND STOCKS AT REFINERIES IN THE UNITED STATES, 1928

(Thousands of barrels of 42 U. S. gallons, except wax, coke and asphalt.)

	Runs to stills													
	Domestic crude	Foreign crude	Unfinished oils rerun	Natural gasoline	Gasoline	Kerosene	Gas oil and fuel oil	Lubricants	Wax (thousands of pounds)	Coke (tons)	Asphalt (tons)	Other finished products	Unfinished oils produced (net)	Shortage
East Coast	101,720	68,786	12,466	2,204	53,694	8,563	94,023	10,817	230,352	139,100	1,542,100	1,316	937	5,819
Appalachian	33,643	.....	1,336	732	15,894	3,719	7,271	5,109	95,936	48,300	1,500	430	864	1,798
Indiana, Illinois, Kentucky, etc.	98,905	.....	7,513	2,226	55,716	6,318	32,715	3,943	78,405	409,400	440,800	2,197	1,290	1,646
Oklahoma, Kansas and Missouri	111,342	.....	4,148	4,632	60,943	10,239	37,193	2,639	46,030	287,700	10,600	575	1,660	5,060
Texas	184,830	1,246	7,815	6,963	80,863	14,494	79,349	8,361	71,118	298,300	201,900	63	6,451	8,525
Louisiana and Arkansas	67,988	7,552	1,091	5,082	26,662	5,814	33,954	769	64,319	136,700	483,500	2,223	7,162	1,598
Rocky Mountain	26,061	.....	7,326	1,384	16,497	1,829	7,100	620	43,984	107,100	14,100	160	7,037	592
California	211,222	.....	4,014	*12,000	66,676	8,377	135,632	2,400	.....	.....	602,300	2,438	4,338	4,002
Total	835,711	77,584	45,709	35,223	376,945	59,353	427,237	34,658	630,144	1,426,600	3,296,800	9,402	29,739	29,040
Texas Gulf Coast	136,734	1,246	7,134	5,665	62,526	11,609	56,227	7,962	67,757	235,600	201,200	21	3,172	6,857
Louisiana Gulf Coast	45,313	7,552	393	3,892	20,199	5,182	19,256	739	64,319	134,800	463,100	2,077	5,698	588
January	64,139	5,022	3,615	2,892	27,962	4,958	33,183	2,654	55,378	103,200	201,900	615	2,293	2,144
February	61,360	5,288	3,421	2,771	26,762	4,751	31,956	2,728	49,158	100,100	207,000	633	2,199	1,979
March	66,889	5,732	3,482	2,719	29,311	4,715	34,510	2,878	50,170	107,200	265,100	659	2,279	2,269
April	67,245	5,839	3,072	2,800	29,300	4,935	34,043	3,026	57,548	109,400	273,800	656	2,478	2,224
May	70,800	6,614	3,313	2,842	30,837	5,105	35,831	3,091	51,072	118,400	330,700	879	2,792	2,404
June	68,712	7,246	4,059	2,818	30,793	4,848	35,766	3,009	50,792	118,100	331,600	891	2,325	2,578
July	73,433	7,169	3,334	2,867	32,959	4,894	36,934	2,828	45,273	127,000	330,800	938	2,787	2,820
August	74,591	6,990	3,979	2,957	33,937	5,339	37,517	2,891	54,429	136,100	316,300	991	2,529	2,660
September	72,785	7,109	4,086	2,803	33,670	4,960	37,104	2,833	50,428	119,100	305,600	873	2,226	2,644
October	72,265	7,398	4,703	3,274	34,415	5,145	37,029	2,979	54,546	125,000	319,800	867	1,954	2,655
November	70,593	6,556	4,464	3,056	33,065	4,935	35,871	2,748	56,665	131,000	244,400	723	2,711	2,388
December	72,899	6,621	4,181	3,424	33,934	4,768	37,493	2,993	54,685	132,000	169,800	677	3,166	2,275
STOCKS END OF MONTH:	†		‡	‡			†							
January	36,134	5,446	36,762	.....	37,330	7,672	30,665	7,988	149,725	331,300	219,000	1,184	.....	.....
February	37,012	5,816	37,283	.....	39,860	7,615	29,560	8,332	136,479	335,100	233,800	1,297	.....	.....
March	37,241	6,877	37,125	.....	41,089	7,759	29,104	8,384	119,522	352,400	269,900	1,527	.....	.....
April	36,440	7,162	38,215	.....	41,195	7,735	29,669	8,018	109,709	342,100	273,700	1,601	.....	.....
May	36,183	7,230	38,762	.....	38,230	7,540	32,887	8,060	103,639	348,300	262,200	1,392	.....	.....
June	36,184	6,934	38,380	.....	34,862	8,432	36,085	7,832	91,989	343,700	270,800	1,130	.....	.....
July	36,382	6,693	40,657	.....	30,394	8,470	36,410	7,667	84,476	384,900	247,200	1,200	.....	.....
August	36,368	6,049	39,596	.....	27,075	8,887	39,236	7,711	79,622	402,100	225,500	857	.....	.....
September	35,388	5,209	39,732	.....	26,278	8,593	39,900	7,742	85,417	402,200	202,900	748	.....	.....
October	34,931	4,875	38,452	.....	26,435	8,633	39,599	7,830	92,814	404,400	209,900	723	.....	.....
November	35,662	5,105	38,114	.....	29,185	8,886	37,878	7,921	103,949	418,800	228,000	726	.....	.....
December	34,657	5,872	38,601	.....	33,066	9,001	34,926	8,340	110,344	436,900	235,500	635	.....	.....

*Includes 1,904,000 barrels natural gasoline turned into pipe lines. †East of California. ‡Stocks of natural gasoline included in unfinished oils.



Proved PROTECTION *for* Iron *and* Steel

LITHARGE of correct physical character and extreme chemical purity is a necessity in oil-refining. Such litharge is made by us. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.

Proved by the rigid tests of experts . . . *proved* by its continued use for more than 100 years—pure red-lead is recognized as the standard protective paint for metal.

On railroads, in the shipyards . . . and on bridges, tanks and steel structures of every type . . . you'll find red-lead paint in excellent condition after exceptionally long periods of service.

That is why paint authorities say: "Three coats of pure red-lead give protection for metal that is unexcelled in length of life."

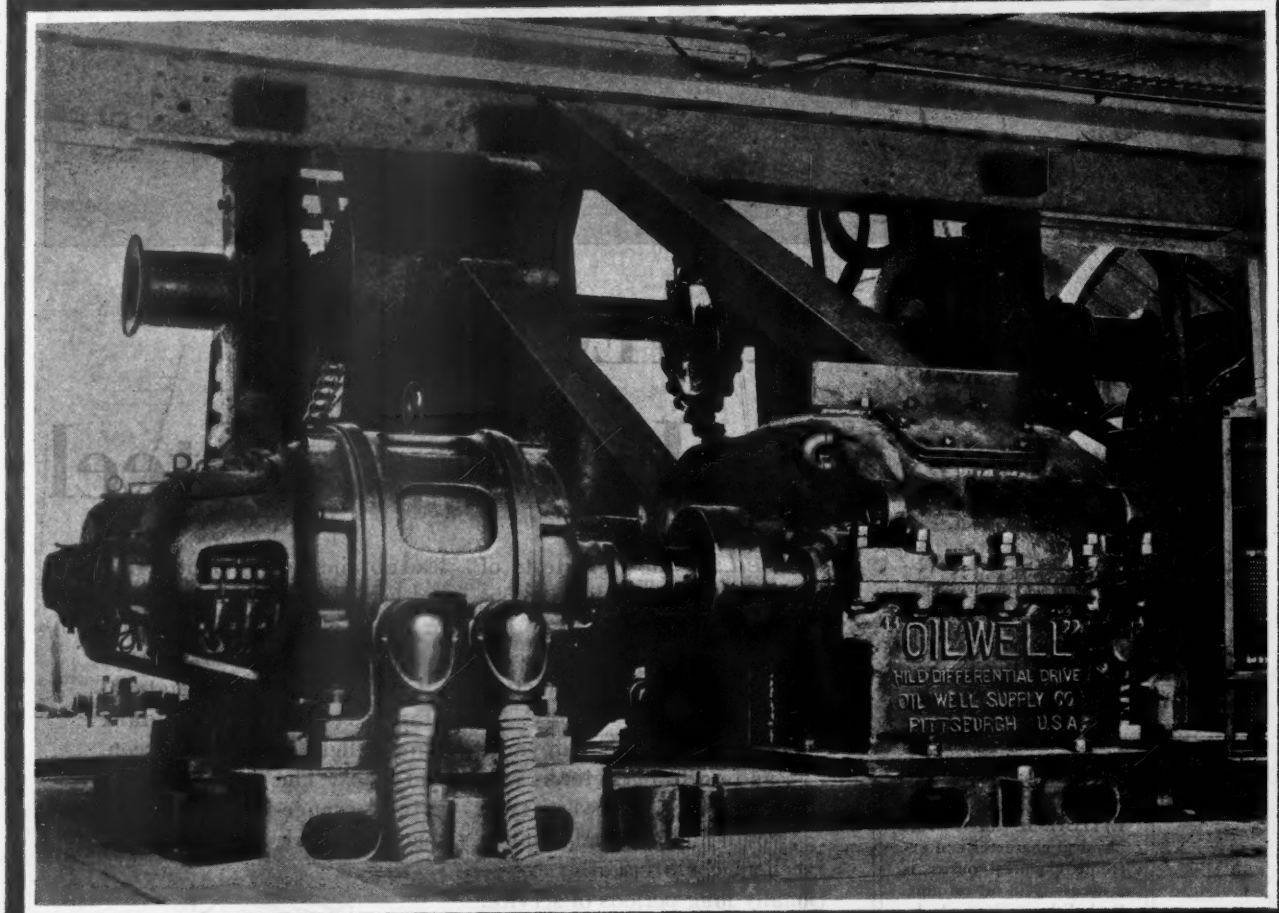
Fine, uniform, highly oxidized . . . there is no better red-lead obtainable than Dutch Boy red-lead. It comes in two forms . . . paste and liquid. The liquid (ready for the brush) is supplied in six colors — natural orange-red, light and dark brown, light and dark green, and black. The paste comes in natural orange-red and can be shaded to dark colors.

NATIONAL LEAD COMPANY

New York, 111 Broadway ✓ Buffalo, 116 Oak Street Chicago, 900 West 18th Street ✓ Cincinnati, 659 Freeman Ave. ✓ Cleveland, 820 West Superior Ave. ✓ St. Louis, 722 Chestnut St. ✓ San Francisco, 235 Montgomery St. ✓ Boston, National-Boston Lead Co., 800 Albany St. ✓ Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Ave. ✓ Philadelphia, John T. Lewis & Bros. Co., Widener Bldg.

DUTCH BOY RED-LEAD

Straighter



"Oilwell" Hild Electric Drive. Licensed by Halliburton.

966-D

OIL WELL SU

WORLD'S OLDEST AND LARGEST
MANUFACTURERS OF OIL FIELD EQUIPMENT

PITTS B

Holes....

The "Oilwell" Hild Electric Drive provides the facility for making straighter holes by steady, regulated automatic feed, and the means for holding up the drill pipe so that only the actually needed weight is on the cutting tool. This eliminates the most frequent cause of crooked holes—excess weight on the drill bit.

For complete information on "Oilwell" Hild Electric Drives inquire at any of our branch offices or write for Bulletin No. 75.

SUPPLY CO.

S BURGH, U.S.A.

BRANCH STORES
IN ALL OIL FIELDS

Continued Activity in West Kentucky

Ohio, Daviess and Muhlenberg Counties Getting Big Drilling Play. Remarkable Increase in Production in Two Years

By Whit
Staff Correspondent, Kentucky-Tennessee

OWENSBORO, Ky., Oct. 21.—With the great activity in drilling operations in Ohio, Daviess and Muhlenberg Counties, the western portion of Kentucky is being well explored for possible pools such as have been found in the three counties mentioned. Logan County in the southern part of the State, bordering on the Tennesee line, is to have a couple of important tests, one to be near Russellville and the other in the northern portion of the county, near the Butler County line. It is also rumored that the Shell Petroleum Corp. contemplates the testing of a large leased acreage in the southwest corner of Todd County, near the Tennessee line.

In regard to the well drilled on the Brown farm, 7 miles east of Charlotte, the county seat of Dickson County, Tennessee, Newell and Pinion, well contractors, announced over the phone that nothing had been done since the well came in at 1,250 feet. They have been awaiting the arrival of P. F. Crowe, from the Dupo Field in Illinois. The contractor is trying to keep the water bailed down in an effort to save the well until the owner can get on the job.

Since October, 1926, says an old-timer in the western Kentucky Field, when the Illinois Pipe Line Co. took over the properties of the Indiana Pipe Line Co. in the Owensboro Field, and in Warren, Allen and other counties, oil production has increased approximately 900 per cent, according to good information The daily production three years ago this October was around 1,800 bbls. while now, according to conservative estimates, the production is greater than 13,000 bbls. a day. The production has steadily increased during the summer and indications are it will continue to go upward in Ohio, Daviess and Muhlenberg Counties this fall and until winter slows activity. An estimate of the income from oil to be pumped in the field during the coming 12 months places it at about $6,000,000. This allows for a slump of 3,000 bbls. a day in the production and for possible reduction of the price.

Since 1926, several leases have each produced more oil a day than the entire field did then. One lease in the Mason-Bartlett Pool is placing about 4,000 bbls. of crude into the pipe line and is utilizing all tank space available to care for its production while waiting for it to be turned into the line. The two pipe line companies, the Illinois Pipe Line Co. and the Producers Pipe Line Co., which take the Ohio-Daviess-Hancock Counties crude to refineries, are reported to be more crowded than at any time since their establishment in the three counties. If the production continues to grow at the rate it has attained expansion of their facilities will be necessitated.

Construction of the 55,000-bbl. storage tank of the Illinois Pipe Line Co. at its pumping station at Doyle, 2 miles east of Owensboro, is under way.

Week's Work

A summary of the week's work in Kentucky shows 20 completions, 12 producers with an initial production of 1,675 bbls., 6 dry holes and 2 gas wells.

County—	Comp.	Wells	Prod.	Dry	Gas
Ohio	10	7	1,104	3	0
Daviess	4	3	565	0	1
McLean	2	1	5	1	0
Warren	2	1	1	1	0
Webster	1	0	0	0	1
Muhlenberg	1	0	0	1	0
Total	20	12	1,675	6	2

The best completion of week in any part of the western Kentucky area, was Hupp and Duff's No. 8 on the Mason-Bartlett farm, in the Barnett's Creek Church Pool, almost direct west of Taffy. This well, like numerous others drilled on the same farm, the Hoover and others farms in that pool, was reported good for more than 500 bbls. initial.

The Ohio Oil Co.'s initial well on the Jim Kirk 100 acres, midway between the Bartlett and Barnett's Church Pool, just east of the Charles Trodgen farm, is rated good for 200 bbls. initial and almost links the two pools.

East of the Mason-Bartlett farm and the new well of the Ohio on the Kirk, the Rex-Pyramid Oil Co.'s No. 1 on the Charles Trodgen 60 acres is also rated at 200 bbls. initial.

North of the rich lease of the Rex-Pyramid Co., on the Sallie Hoover, and also north of the rich Mason-Bartlett lease, the Cumberland Petroleum Co. has a productive acreage in the Cicero Wade farm of 100 acres. Nos. 1 and 2 on the Wade were excellent wells, but were followed with three dry holes in Nos. 3, 4 and 5, but No. 6 came back with an initial of around 150 bbls.

In the Ralph Pool, S. R. Nigh and others' No. 12 on the A. P. Kelley 340 acres, pumped 19 bbls. initial at a total depth of 684 feet. In this well a string of 650 feet of casing was set and the pay found from 668-84 feet.

James C. Ellis and others' No. 1 on the W. W. Moseley, reported showing for 25 bbls. and No. 3 on the Ellis Bartlett No. 2 farm, in the Bartlett Pool, was dry.

Daviess County Wells

The Red Hill Pool, in eastern Daviess County, is making a much better showing than for several months, due to the completion of a couple of new wells far above the average for that pool. Evans & Garrison's No. 3 on the Davis heirs 109 acres, is credited with an initial around 300 bbls., while Goldburg, Young and others' No. 7 Lindsay Purcell, which adjoins the Davis heirs leases, is reported at 200 bbls. initial. No. 1 on the Davis heirs, was a nice gas well.

In the Jones Pool, southwest of Whitesville, Dahlgren, McMahan and others found 42 feet of sand at a total depth of 560 feet in No. 3 on the Frank Fuqua farm.

The Missouri-Kansas Pipe Line Co.'s No. 3 on the Ivy lease, in the Jones Pool, is reported good for 300,000 feet.

Scattered Completions

In McLean County, W. Roy Hogan and others' test on the E. L. Wells lease, 1½ miles east of Nickols, is reported good for 5 bbls. The Creek Drilling Co.'s wildcat on the C. L. Phelps, 4 miles south of St. Joseph, is reported dry at 2,200 feet.

In the Bowling Green Field of Warren County, very little is doing, but an occasional test is put down in hopes of finding commercial production. The Wood Oil Co. drilled in a dry hole on the H. S. Roark farm, south of the Green, at 910 feet, while S. F. Durbin and others' No. 7 on the W. H. McGinnis, same area, pumped but 1 bbl. at 460 feet.

Greenville Field

The Greenville Field in Muhlenberg County remains active and the outlook is for an interesting field. A resume of the field from the start is of much interest to those that have not been in close touch with it.

Beginning at the No. 1 R. O. Kennedy, a 130-acre tract, under lease to the Ohio Oil Co., and going south is a 73-acre tract belonging to A. F. and C. W. Walker. On this lease the Ohio Oil Co. is drilling an offset to No. 1 R. O. Kennedy. Joining the Walker tract is a well on the R. L. Kennedy 87 acres, about 4,000 feet from No. 1 R. O. Kennedy. This well is getting close to the producing formation and is owned by the Ohio Oil Co. Next to the R. L. Kennedy 87 acres, is the Ed Dukes 58-acre lease, where Ellis & Young are drilling an offset to the R. L. Kennedy well, and near the pay sand. A fishing job delayed work on this well for a short period. Next to the Dukes lease is the Rice Brothers' lease of 100 acres where a short time ago Ellis & Young got a good producer in their No. 1 which is about 1,000 feet from the R. L. Kennedy well, No. 2 on the Rice Brothers 100 acres is also about due for completion. Rice Brothers hold the royalty interest in the 100 acres, but the land is owned by Preacher Woodson.

About 1½ miles southwest from the R. O. Kennedy, is the well on the Jack Corley farm, recently completed by the Missouri-Kansas Pipe Line Co. This company is now drilling No. 2 on the same farm, about 1,500 feet from No. 1.

Coming back to the No. 1 R. O. Kennedy as a starting point, you find just across the road, the R. B. Kennedy 79 acres, and the well on this lease, an offset to No. 1 R. O. Kennedy was the second producer in the Greenville Field. In a general northerly direction toward Greenville, is the No. 2 on the R. O. Kennedy also an offset to No. 1 on the same tract. Next comes No. 3 R. O. Kennedy, the big well which was reported for around 1,000 bbls., and which is an offset to the Bradshere farm of 67 acres, where Ellis & Young brought in a 1,000-bbl. gusher. Then, as a second offset to the Bradshere well is the one on the 50-acre tract belonging to Ed Tett, colored, where Ellis & Young are nearing the pay sand. Joining the Tett lease is the Eaves and Kennedy tract of 50 acres on which no well has yet been started, and next to this is the James Bandy lease of 65 acres where the E. M. Treat Oil Co. is putting down a well which is about 1,000 feet from the Bradshere well. This

(Continued on Page 166)

HANCOCK COUNTY'S WILDCAT FEATURE IN CENTRAL OHIO AREA

By Whit
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Oct. 21.—Central Ohio leads the Central West Field in the number of completions during the week. Only two completions were reported from the old Lima Field of northwestern Ohio, although several wells are about due for completion, scattered over the Trenton Rock Field with a length of close to 120 miles and average width of approximately 30 to 50 miles.

In Union Township, Mercer County, in the western portion of the old Lima Field of northwestern Ohio, Margaret E. Grace drilled in No. 5 well, 800 feet from the south line and 600 feet from the east line of the F. G. Fireovid, NE, Section 21, with an initial production of 15 bbls. from the Trenton which was topped at 1,141 feet and drilled 50 feet into the sand, a total depth of 1,191 feet.

The other was a wildcat drilled by Robert Mitchell, trustee, 400 feet from the north line and 800 feet from the west line of the R. W. Moore farm, NW, Section 21, Biglick Township, Hancock County, which also proved a 15-bbl. initial producer. Trenton was reached at 1,296 feet and drilled 94 feet into the sand, to a total depth of 1,390 feet. This well is near the Wyandot County line.

CENTRAL OHIO

Twenty-three completions were reported from the Central Ohio Field of which 9 were producers with an initial production of 305 bbls., 5 dry holes and 9 gas wells. There were seven locations made and 35 wells started, a total of 42. But few wells are drilling in Central Ohio for oil, the bulk of the drilling being for gas.

In Ashland County, M. and S. Burtner's second test on the John Obrecht farm, Section 36, Vermillion Township, is a fair gas well at 3,042-49 feet. In Greene Township, the Ohio Fuel Gas Co. is drilling No. 1-4,832 Anna Dutton farm, Section 3, and the same company is drilling deeper its No. 1-4,527 W. C. Workman, Section 20. In Lake Township, Robinson and others' No. 3 Phil Shaffer, Section 16, is reported good for 8 bbls., and also a small gas well at 679-712 feet. Same firm has a dry hole in No. 5 on the G. M. Heffelfinger, Section 9, at 664-72 feet, and is drilling No. 4 H. C. Young, Section 22. Round Lake Allotment Co.'s second test on the Ellis Aber, Section 22, is a light gas well from 559-65 feet. Mohican Oil & Gas Co. is drilling No. 7 B. B. Chesrown, Section 3. In Montgomery Township, Hulse & Kundtz have a duster on the Harry Dolby, Section 24, at 2,647-52 feet. Kemrow Co. is drilling a second test on the C. W. Hiner, Section 1. In Mohican Township, the same company's No. 2 on the George W. Garst, Section 16, is good for 9 bbls. of oil and a fair gas well from 472-576 feet. W. J. Smith found no sand in No. 3 on the W. G. Obrecht farm, Section 32, and it is dry at 700 feet. Meltzer and others are drilling No. 4 Michael Ott, Sr., farm, Section 34.

Medina County

In Medina County, Chatham Township, the East Ohio Gas Co.'s No. 8 on J. and A. Jalensics farm, Lot 2. No. 7 on this farm produced 40 bbls.

The only new work starting in Lorain County, is the Ohio Fuel Gas Co.'s No. 2-4,870 on the Julia Clark, Section 13, Carlisle Township.

In Wayne County, Chester Township, B. Slagel has a light gas well in No. 3 on the George Mark, Section 36, and is starting No. 4 same farm. Ohio Fuel Gas Co. is drilling No. 1-4,887 on the John Myers, Section 18. Faulkner and others are starting a test on the Albert Snyder, Section 36. Harmon & George are drilling No. 2 Elliott M. Myers, Section 8, and No. 1 G. E. Snyder, same section. In Congress Township, the Ohio Fuel Gas Co. is drilling No. 1-4,845 J. H. Wiley, Section 12.

In Holmes County, the East Ohio Gas Co. has a light gas well in a second test on the J. G. Stetzline, Section 16, Knox Township, at 3,134-49 feet. Same company is drilling No. 3 Christian Schlarb, Lot 19, Hardy Township, and the Ohio Fuel Gas Co. is cleaning out No. 1-3,037 J. A. Baker, Section 18, Prairie Township.

In Richland County, Ohio Fuel Gas Co. made a location for No. 1-4,894 Alex

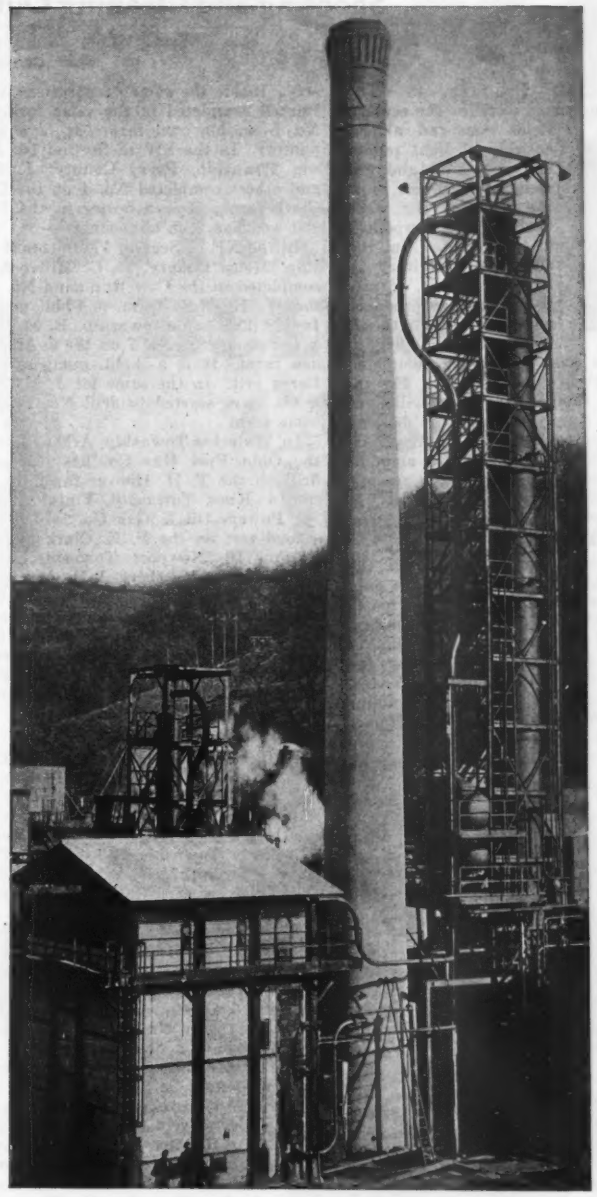
(Continued on Page 102)

Small Refinery Operation

The Foster Wheeler fractionating tower shown at the right is designed for the continuous removal to specification of gasoline, naphtha, kerosene, gas oil, wax distillate, overhead lubricating stock (540 deg. F. flash) and a heavy gravity cylinder stock bottom (640-650 deg. F. flash). The Foster tube still and heat exchangers are shown at the left of the tower.

The small re-run unit shown in the background is designed to redistill pressed wax distillate, recovering gas oil overhead, a 100 viscosity neutral oil side stream and a 200 viscosity bottom. This small unit also re-runs cylinder stock bottoms. The simplified control of the unit enables the operator to switch from one cycle to another without shutdown and with a minimum loss in time.

The complete refinery has a rated capacity of 1800 barrels of crude per day. It was designed and erected complete, ready for operation by the Foster Wheeler Corporation.



Foster tube still, heat exchangers and fractionating tower of Foster Wheeler refinery unit having a rated capacity of 1800 barrels per day. The small tower of the re-run unit appears in the background, above the tube still. The single stack serves both the large still in the foreground and the small still obscured behind the large one.

FOSTER WHEELER CORPORATION
165 Broadway, New York, N. Y.
Branches in Principal Oil Centers

Foreign Associates:
Foster Wheeler Limited; London, England.
Societe Anonyme Foster Wheeler; Paris, France.
Foster Wheeler Limited; Toronto-Montreal-Vancouver, Canada.

FOSTER WHEELER

Southeast Ohio Has Lone Good Well

Pure Oil Co. Gets 135-Bbl. Producer in Muskingum County. Shooting and Cleaning Out Old Wells West Virginia Feature

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Oct. 21.—The week of development work in the eastern fields consisted almost entirely of light pumpers, dry holes and gas wells. It was not until the close of the week that a fair producer was completed in the deep sand territory in Southeast Ohio. It was the first large producer completed in Southeast Ohio in a number of weeks. More gas wells were completed during the week than oil wells. The indications are the gas companies will have an adequate supply to meet the demand during the approaching winter. West Virginia will supply the greatest amount. The lower counties have a large amount of undeveloped territory, principally in Boone, Lincoln and Kanawha Counties.

SOUTHEAST OHIO

Just at the close of the week the Southeast Ohio fields completed the only good producer of the week. In Section 6, Jackson Township, Muskingum County, the Pure Oil Co. completed and shot in the Clinton sand a second test on the Otis McKee farm. It produced 135 bbls. the first 24 hours. In Section 16, Ludlow Township, Washington County, Homer Newhart and others have a light pumper in the Berea grit at No. 3 on the C. F. Payne farm.

In the SW of Section 12, Pike Township, Coshocton County, the Pure Oil Co. completed and shot in the Clinton sand No. 4 on the William L. Norris farm. It produced 27 bbls. the first 24 hours. In Section 15, Perry Township, Licking County, the Hope Construction & Refining Co. completed in the Berea grit No. 3 on the James C. Wright farm, a light gasser.

Meigs County

In the NW of Section 11, Sutton Township, Meigs County, H. B. Goddard & Co. completed in the Cow Run sand No. 8 on the A. E. Carnahan farm, a 3-bbl. pumper. In the same township, the Preston Oil Co.'s No. 3 on the Nial Salser farm is a 4-bbl. pumper in the Berea grit.

In Section 3, Franklin Township, Monroe County, Shay, McMullin & Co. have a 5-bbl. pumper in the Squaw sand at a second test on the C H. Hines farm. In the SE of Section 5, Bearfield Township, Perry County, William Cline and others have a duster in the Clinton sand at a second test on the F. D. Bateson farm.

Noble County

In the SW of Section 21, Enoch Township, Noble County, H. H. Henning & Co. have completed in the Berea grit No. 9 on the Jacob Crock farm, a light gasser. In the SW of Section 14, Washington Township, Hocking County, the Gordon Oil Co. completed in the Clinton sand No. 7 on the George Anthony farm. It is not good for more than 3 bbls. a day. In Section 17, Sutton Township, Meigs County, R. C. Miller and others have started to drill on the W. B. Cross farm. In the same township, R. A. Tyree and others are drilling on the Cooper heirs' farm.

In Section 10, Fallsbury Township, Licking County, the Emerald Petroleum Co. completed No. 6 on the J. F. Martin farm. It is a 12-bbl. producer in the Berea grit. In Section 8, Perry Township, Licking County, the Preston Oil Co.'s No. 7 on the J. E. Scanlon farm is an 8-bbl. pumper in the Berea grit.

Stark County

Located inside of Alliance corporation, Stark County, the Hill Top Oil Co. completed a 5-bbl. pumper in the Berea grit on the Consolidated Realty Co.'s property. Inside the same corporation W. H. Purcell completed in the same formation No. 5 on his own farm. It is a 2-bbl. pumper. In the SW of Section 10, Jackson Township, Perry County, J. Elder and others completed No. 4 on the D. A. Clark farm. It is a duster in the Berea grit and has been abandoned.

In the NE of Section 17, Sutton Township, Meigs County, R. C. Miller & Co. completed in the Cow Run sand No. 6 on the W. B. Cross farm, a 4-bbl. pumper. In Lot 283, same township, B. M. Tyree & Co. completed No. 7 on the J. M. Camden farm. It is a 3-bbl. pumper in the Berea grit. In the same lot J. M. Tyree & Co. have started to drill No. 7 on the same farm.

In Waterloo Township, Athens County, the Ohio Fuel Gas Co. has started to drill on the T. H. Hoover farm. In Section 4, Knox Township, Vinton County, the Powers Oil & Gas Co. is drilling a second test on the P. E. Clark farm. In Section 16, Newport Township, Washington County, Albert John and others have a rig up on the Richard Pool farm. In Ludlow Township, Homer Newhart & Co. are drilling on the C. F. Payne farm. In the same township the Henderson Oil Co. is drilling on the John Nau farm. In Marietta Township, John Thornily has a rig up on the Adam Thornily farm.

Hocking County

In the NW of Section 25, Ward Township, Hocking County, the Preston Oil Co. completed a duster in the Clinton sand. No. 1,354 on the Sunday Creek Coal Co.'s property. At Fifteen, Section 7, Liberty Township, Washington County, C. E. Smith & Co. completed in the Big Injun sand No. 17 on the James Hadley farm, a dry hole.

In Section 19, Noble Township, Noble County, McKee Brothers completed a second test on the McKee Brothers' farm, a very light pumper in the Berea grit. In Section 5, Jefferson Township, Ellis, Young & Co.'s No. 2 on the William Wiper farm is a duster.

In Section 30, Alexander Township, Athens County, Jones and others completed a test on the N. Vorhes farm, dry in the Berea grit. In Lot 80, Athens Township, Ralston & Maynard have a very light pumper in the same formation at No. 4 on the Louis M. Gadnai farm. In Lee Township the Three Way Oil Co. is drilling on the Emma Marcum farm. In Section 6, same township, the Ohio Fuel Gas Co. is drilling on the Eliza Enllow farm.

WEST VIRGINIA

On Indian Run, Ten Mile district, Harrison County, the Wilson Oil & Gas Co. has now drilled its test on the J. V. Cater farm through the Gordon sand. It is a 5-bbl. pumper. In the same district, on Jacobs Run, Moses & Johnson completed in the same formation a very light pumper on the P. W. Flannagan farm.

In Henry district, Clay County, the West Virginian Gasoline & Oil Co. completed No. 7 on the P. D. Summers farm in the Big Injun sand. It is a 5-bbl. pumper and is located 500 feet south of No. 6 on the same farm.

In Grant district, Ritchie County, H. N. Rinehart has completed a second test on the Daniel Donley farm. It is a 2-bbl. pumper in the Big Injun sand. In the same district, Mellon Brothers have drilled down an old well on the A. J. Noll farm. It is a 5-bbl. pumper in the same formation. In Union district, Tyler County, Michael & Co. have completed a duster on the School lot.

Gilmer County

In Glenville district, Gilmer County, the Pittsburgh & West Virginia Gas Co. completed No. 7,551, a gasser in the Big Injun sand. In Troy district the same company has a gasser in the same formation at No. 4,979 on the Allen Miller farm. In the same district, C. M. Bennett has a Big Injun sand gasser at No. 3 on the Howard Keister farm.

In Collins Settlement district, Lewis County, the Mid Penn Oil & Gas Co. completed a duster on the W. C. Harold farm. In Geary district, Roane County, the Simmons Oil Co.'s test on the Everet Wilson farm is a gasser in the gas sand.

Shooting and cleaning out old wells is now quite a feature in West Virginia. In DeKalb district, Gilmer County, the South Penn Oil Co. shot and cleaned out old No. 1 on the B. F. Weaver farm, increasing its production from 3 to 6 bbls. a day. No. 5 on the same farm was shot and its production increased from 1 to 8 bbls. a day. The Laurel Creek Oil shot and cleaned out its old test on the A. L. Weaver farm. Its production was increased from 2 to 5 bbls. a day.

On Bond Creek, Graham district, Mason County, Hovis & Green completed in the Berea grit a test on the C. M. Oblinger farm, showing for a light pumper. On Bull Branch, Harvey district, Mingo County, the Red Jacket Oil & Gas Co. completed No. 6 on its own property. It is a gasser good for 250,000 feet. The location is 3,000 feet north of No. 3 on the same tract.

In Cabin Creek district, Kanawha County, the Pure Oil Co.'s No. 193 on the Williams Coal Co.'s tract is a 14-bbl. pumper in the Berea grit. In the same district, G. L. Cabot has a rig up on the Huntington Development Co's property. In the same district, the Owens Bottle & Machine Co. has a gasser at No. 22 on the Marmot Coal Co.'s property.

Calhoun County

In Center district, Calhoun County, W. H. Bickel has a duster on the S. Stump farm. In Center district, Gilmer County, the Chartiers Oil Co.'s No. 10 on the Baptist Missionary farm is dry and abandoned. In DeKalb district, the Hope Construction & Refining Co. has a 15-bbl. pumper in the Big Injun sand at its No. 1,098 on the Wilt heirs farm.

In Otter district, Braxton County, H. C. Zogg's test on the Victor Sutton farm is dry and abandoned. In Malden district, Kanawha County, O. H. Bayless has a gasser on the J. E. Coon farm. In Harvey district, Mingo County, E. H. Evans has a gasser on the J. H. Kirk, Sr. farm. In Scott district, Boone County, the Owens Bottle & Machine Co. completed No. 3 on the Pinos-Moore farm, a gasser in the Big Injun sand. In the same district, the same company's test on the J. H. Cottle farm is a gasser. E. H. Horford has a gasser on the W. L. Tompkins farm. In Town district, Raleigh County, G. L. Cabot is cleaning out a well on the McKinley Land Co.'s property.

In Carroll district, Lincoln County, the United Fuel Gas Co. completed a gasser, No. 3,947, on the Wiley Thompson farm in the Berea grit. In the same district, the Allegheny Gas Corp. has a gasser on the W. M. King farm. In Scott district, Boone County, the Mountain State Fuel Co. completed a gasser on the Wade Stollings farm.

Roane County

On Camp Run of Sugar Creek, Reedy district, Roane County, the Heck Oil Co. has drilled a second test on the W. H. Enochs heirs farm into the Berea grit, showing for a producer. The location is 600 feet north of the company's test on the H. W. Allen farm.

On Leatherwood Creek, Big Sandy district, Kanawha County, the United Fuel Gas Co. completed in the Weir sand No. 2,552 on the S. D. Littlepage farm, a gasser good for 500,000 feet. On Morris Creek, same district, the United Fuel Gas Co. completed No. 3,979 on the Queen Land Co.'s tract. It is a gasser in the Big Injun sand good for 740,000 feet.

In Battelle district, Monongalia County, the Manufacturers Light & Heat Co. has drilled a second test on the P. M. Broadwater farm through the Bayard sand. It is a duster.

Starting New Work

In Grant district, Ritchie County, the South Penn Oil Co. has started to drill on the W. R. Cunningham farm. In Sherman district, Calhoun County, the Virginian Gasoline & Oil Co. has the rig completed for a second test on the Arminda Elliott farm. In Washington district, Boone County, the Owens Bottle & Machine Co. is drilling on the Lewis R. Bias farm and has a rig up on the Leander Pauley farm. In Chapmanville district, Logan County, the Weiderman Oil Co. has started to drill on the Marshall Coal Co.'s property. In the same district, the Peck Oil & Gas Co. is building a rig on the J. E. Peck farm. In Curry district, Putnam County, J. V. Reishman is due in the sand on the William Grass farm.

In Grant district, Ritchie County, the Hope Natural Gas Co. has started to drill on the W. J. Shields farm. In the same district, Rexroad & Co. have rig material at a location on the J. W. P. Cain farm. In Lee district, Calhoun County, Everet Starcher & Co. have started to drill on the D. W. Price farm. In the same district, the Southwestern Gas Co. has made a location on the John N. Snider farm. In Spencer district, Roane County, Jefferson Miller & Co. have a rig up on the E. D. Cutright farm. Richard Elkins & Co. have made a location on the James Cottrell farm. The Simons Run Oil & Gas Co. has shut down on the Everet Wilson farm.

In Reedy district, Wirt County, Ray Evans & Co. are drilling on the L. L. Courtney farm. In Geary and Walton districts, Roane County, the United Fuel Gas Co. is drilling and starting seven wells. The Hardly Able Oil & Gas Co. has started to drill on the F. F. Nichols farm, in Smithfield district, Roane County. In the same district, the Ohio Valley Gas Corp. has started to drill on the D. H. Harless farm. In DeKalb district, Gilmer County, McCall & Co. are drilling on the John R. Ralston and J. W Cunningham farms.

In DeKalb district, Gilmer County, the White Pine Oil & Gas Co. has the rig completed on the H. A. Gainer farm. In the same district, C. B. Lewis has a rig up for a second test on the Clark Weaver farm. In Troy district, the Hope Gas Co. has a rig up on the A. L. Rymer farm.

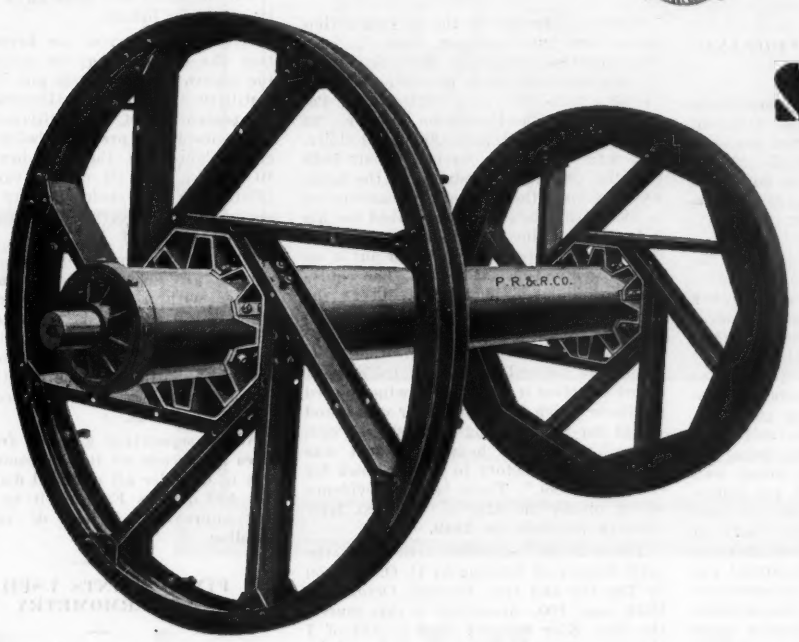
Wetzel County

In Church district, Wetzel County, the Manufacturers Light & Heat Co. is building the rig for No. 3,386 on the J. D. Horner farm. In Grant district, Cabell County, the Harshbarger Oil & Gas Co. is due in the sand on the Isaac Garlock farm. In the same district, the United Fuel Gas Co. has made a location on the J. K. Suiter farm. In Scott district, Boone County, the Owens Bottle & Machine Co. has a rig up on the Sylvester M. Wheeler farm. In Union district, Lincoln County, B. B. James, trustee, has a rig up on the R. D. Adkins farm. In Ten Mile district, Harrison County, the Conservative Gas Co. is building a rig on the Loy Mason farm. The same company has rig material at a location on the Dora McDonald farm.

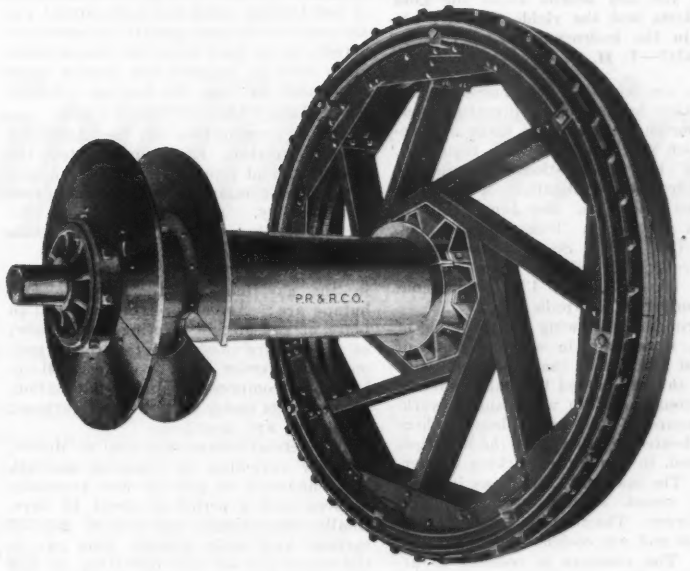
(Continued on Page 113)

PARKERSBURG

Has served the oil fields of the world for 32 years



STEEL BULL & CALF WHEELS



Shafts fabricated from 16"x3/8" wall, 18"x1/2" wall, 24"x1/2" wall and 18"x1 1/8" wall, O. D. pipe.

Gudgeons are pressed into shaft under hydraulic pressure then bolted through shaft and gudgeon band—they can't come loose.

Bull Wheels furnished in 7½ and 8 foot diameters with 9, 12 or 14 inch face brake wheel, Tug Wheel either double or triple groove, channel arms, octagonal hubs made from universal mill plates.

An economical replacement for heavy drilling bull wheels is found in 6 foot diameter wheels with 13 inch O. D. by 5/16 inch wall shaft, 13 foot 6 inches shoulder to shoulder of gudgeons.

Write today for prices.

THE PARKERSBURG RIG & REEL COMPANY

EXECUTIVE OFFICES & MAIN PLANT

PARKERSBURG, WEST, VA.

PARKERSBURG PRODUCTS

Steel Derricks and Steel Crown Blocks	■	Rig Irons (A.P.I. Standard)	■
Chain Driven Sand Reels and Bailing Reels	■	Portable Drilling Machines (Wood and All-Steel)	■
Steel Wheels	■	Bolted Steel Tanks	■
All-Steel Standard Rigs	■	Miscellaneous Drilling Equipment	■

Check the equipment in which you are interested, tear out and return this coupon, with your name and address, to us, and we will send you complete information on the items checked.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

CATALYSTS FOR HYDROGENATION

Have you any details about the kind of catalysts and the yields that are obtained in the hydrogenation of coal or heavy oils?—T. H. P.

There are so many references on hydrogenation in the recent literature that it is somewhat difficult to make a selection which will give the details requested. Most of the information following is adapted from the publications of Professor Nash and associates. See Journal of Institution Petroleum Technologists, Vol. 13, 681-712, 1927. See also the article by Burrell, The Oil and Gas Journal, October 10, 1929, page 134, Hydrogenation Commercially Applied.

Experiments, following the principle of Bergius, were made in which a paste of powdered bituminous coal was made with a heavy tar and passed through a stirring device, constructed to withstand a working pressure of 150 atmospheres, where it is preheated together with the hydrogen to be used, to about the working temperatures. The material then flows into the reaction vessel, similar in construction to the stirrer. The reaction products pass from this and are cooled in a worm condenser. The pressure is reduced to atmospheric, after the condenser, and the products then pass into a receiver where the gas and liquid are separated. The approximate yield of oil by this method, from a charge of one metric ton was 490 Kgm., of which 150 Kgm. was a motor fuel with a distillation range of 86 degrees Fahrenheit initial and 446 degrees Fahrenheit endpoint. The hydrogen is in contact with the coal under a pressure between 150 and 200 atmospheres and a temperature of about 896 degrees Fahrenheit. Approximately 5 per cent iron oxide, based on the weight of the coal, was used as the catalyst.

In a series of experiments at about the same temperature, with similar coal, varying quantities of nickel and iron oxides were used as catalysts. The maximum oil yield with the iron oxide catalyst was 30.95 per cent and with the nickel oxide 45.64 per cent. The iron or nickel was introduced in the form of the oxalate.

The details of one experiment in which 7.5 per cent nickel oxide was used, may be outlined: Initial pressure 73.5 atmospheres at 41 degrees Fahrenheit; final pressure 37.7 atmospheres at 41 degrees Fahrenheit; maximum pressure 185 atmospheres at 671 degrees Fahrenheit; maximum temperature 887 degrees Fahrenheit; total heating period, four hours.

Several experiments were reported in which the quantity of iron oxide varied from 10 to 20 per cent. The other conditions were similar to the above, the nickel giving the larger yields as above mentioned.

ENRICHING GAS WITH PROPANE AND BUTANE

Under what conditions is it possible to use mixtures of natural gas or artificial gas together with propane and butane? Can you mention any examples where either propane or butane, or both, are being used in this way on a large scale?—J. H. M.

The high heating values of propane, 2,500 B.t.u. per cubic foot, and butane, 3,200 B.t.u. per cubic foot, and the other physical properties make these gases ideal substances for enriching several different gases that are used for industrial and domestic purposes. It is the practice to use the gas obtained from certain petroleum distillates for increasing the heating power of low B.t.u. gas, and from this use we have adopted the term gas oil for an oil that has been found well adapted to the manufactured gas industry. Propane and butane may be used in place of gas oil. Another condition favorable for their use is when mixtures of low heating value gas and natural gas are required to meet greatly increased demands, as in pead loads, the concentrated gases such as propane and butane make it possible to keep the heating value of the mixture within reasonable limits.

Several committees of the American Gas Association have investigated the possibilities of liquefied hydrocarbon gas, propane and butane, in the manufactured gas industry. This work has been described in the report of the Water Gas Committee.

It is stated that the four major uses in the gas industry for propane and butane are: As carburetting material in place of gas oil; in meeting peak loads; as a mixture with air for town gas; on branch feeder lines to make up B.t.u. losses in compression and condensation. Experiments under each of the mentioned conditions are described.

Commercial butane was used at Moline, Ill., for enriching in place of gas oil. "The quantity of gas oil was gradually reduced over a period of about 10 days, finally discontinued the use of gas oil entirely and made straight blue gas in the water gas set and operating on full butane carburetion for a total of six weeks."

"Louisville, Ky., is confronted with an abnormal load factor, the daily consumption ranges from 8,000,000 cubic feet in summer to a peak of 40,000,000 on the coldest days. A send-out up to 20,000,000 cubic feet can be supplied with natural gas." This gas has a B.t.u. value of 1,150 and when the demand exceeds 20,000,000 cubic feet artificial gas of 550 B.t.u. must be added, but the legal limit for the delivered gas is 850 B.t.u., so it is plain that such addition is restricted. Satisfactory results were obtained by the addition of commercial butane.

When a submarine gas line under the Hudson River from Newburg to Beacon, N. Y., was placed in service a thermal loss of approximately 11 B.t.u. per cubic foot was experienced. In the search for a base gas sufficiently high to offset this loss the liquefied gases were investigated. Butane when introduced at the beginning of the line was not successful on account of the low spots in the line, but when introduced nearer the point of consumption proved to be an efficient recarburetting medium. Good results were obtained also with commercial propane.

FIRST PETROLEUM REFINERY

Have you any particulars about the location and character of the first refinery that was built for refining crude oil? —F. D. J.

There are records in the literature that some form of distillate was obtained from petroleum in very early times, but the modern refinery is generally credited to the efforts of Kier at Pittsburgh, Pa. According to The Petroleum Industry, by Bacon and Hamor, page 202, S. M. Kier, who was a druggist, observed about 1849 that the petroleum produced in the brine wells on his father's property was similar to an oil that had been prescribed for his wife. He obtained some of this oil from the farm at Tarentum, Pa., and put it on sale as a "Natural Remedy." The equivalent of about 3 bbls. was sold at the rate of 50 cents a half pint. On page 203 of the reference mentioned it is stated that Kier found more oil in the brine wells than he could sell, so in 1855 he set about to refine it. "The light wine-colored distillate which first came over was found useful for illuminating purposes as 'carbon oil,' while the heavier product was employed at a factory in Cooperstown for cleansing wool." There is some evidence which places the date of the first Kier refinery as early as 1849.

There is an extended article on the early history of refining by C. O. Willson in The Oil and Gas Journal, October 2, 1924, page 100. According to this source, the first Kier refinery used a still of 1 bbl. capacity, although soon followed by larger stills.

Soon after the supply of oil was increased by the Drake well. At this time there were a number of refineries in the United States which were making illuminating oil from coal—hence the name coal oil which is sometimes applied to kerosene at the present time—and several of these were soon refining petroleum. The reference above mentioned contains a list of 53 coal oil companies which were doing business in 1860, just one year after the drilling of the Drake well.

FOUR POINT CRUDE OIL ANALYSIS

I would greatly appreciate all the information you could give me on the four point control method of analyzing a sample of crude oil. This should include the method of analysis, the interpretation of results, and the theory behind it.—A.F.R.

The four point method for separating the products from a crude oil is based on a vapor temperature control in a modified Hempel apparatus as suggested by Dr. N. A. C. Smith, of the United States Bureau of Mines, in Report of Investigations Circular 2,806, The Interpretation of Crude Oil Analyses. When making a distillation of a sample of gasoline, the four points—or temperatures—at the 20, 50, 90, and 95 per cent distilled are frequently considered the most important.

The Bureau of Mines distillation method provides for the packing of the neck of the flask with chain. This system is intended to produce a result similar to the dephlegmating tower in the commercial unit. The directions following are from the Smith report.

The distillate distilling at atmospheric pressure below 212 degrees Fahrenheit is combined and calculated as the approximate yield of light gasoline with an endpoint not above 257 degrees Fahrenheit. The combination of this fraction and all others coming below 392 degrees Fahrenheit, may be reported as the total gasoline and naphtha with an endpoint not above 419 degrees Fahrenheit.

The next cut is kerosene distillate, or the percentage of all fractions distilling above 392 degrees Fahrenheit but below 527 degrees Fahrenheit. These fractions when combined will have an A.P.I. gravity of 40 or lighter.

After separation of the kerosene fraction the heating may be continued for the separation of gas oil and lubricating distillate by vacuum distillation. The total percentage of all distillates obtained at atmospheric pressure below 527 degrees Fahrenheit that are heavier than 40 A.P.I., plus all of the vacuum distillate with a Saybolt viscosity under 50 seconds at 100 degrees Fahrenheit is reported as gas oil.

The several grades of lubricating distillates are separated as follows: Distillates with a viscosity range between 50 and 100 seconds is reported as nonviscous distillate. Those having viscosities between 100 and 200 are medium lubricating distillates. The fractions with viscosities above 200 are viscous lubricating distillates.

When separating gasoline from distillates and crude oil it is a common practice to consider all material distilling below 410 degrees Fahrenheit to represent the approximate yield of commercial gasoline.

FIXED POINTS USED IN THERMOMETRY

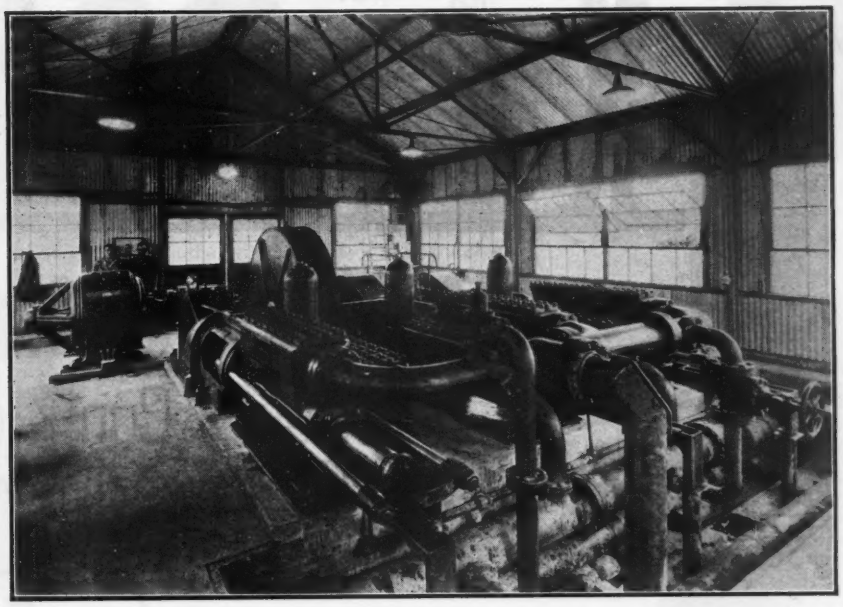
What are the fixed points that should be used for checking thermometers and pyrometers? Are such points generally accepted as standard?—E. S. R.

The Centigrade thermometer was invented on the principle that the temperatures between the freezing and boiling points of water could be divided into 100 parts or degrees. The Fahrenheit instrument fixes the freezing point of water at 32 degrees and the boiling point at 212 degrees, but the zero point was set at 32 degrees lower because it was thought at the time this thermometer was designed that this was the lowest temperature it was possible to produce. At the normal pressure, sea-level, the freezing point and boiling point of distilled water are used more than any other points for checking ordinary thermometers. However, no one point should be considered the standard temperature for testing all kinds of thermometers.

Pyrometers are not so easily tested, and, like thermometers, may be designed for so many different kinds of service that it would be quite impossible to say what should be selected as the standard points for checking such instruments. Usually some agreement is made about such matters when the more expensive instruments are ordered, and when this is done, it is wise to have an understanding as to the details.

There are certain fixed points commonly used in temperature work and these are given in the table.

Material—	Melting or boiling point	Temp. °F.
Mercury	Melting	—38
Water	Melting	32
Water	Boiling	212
Naphthalene	Boiling	424
Tin	Melting	449
Benzophenone	Boiling	583
Cadmium	Melting	610
Mercury	Boiling	675
Zinc	Melting	787
Sulphur	Boiling	832
Antimony	Melting	1,166
Aluminum	Melting	1,218
Silver	Melting	1,760
Gold	Melting	1,945
Copper	Melting	1,981
Nickel	Melting	2,647
Palladium	Melting	2,821
Platinum	Melting	3,191



A 30,000-bbl. Prescott Menominee electric driven unit in The Magnolia Pipe Line Company's station at Cisco, Texas.

Designed for pipe line service

PRESCOTT-MENOMINEE Pumps are not makeshift contraptions adapted to pipe line service but are designed and built specially to meet the severe conditions imposed by pipe line pumping work.

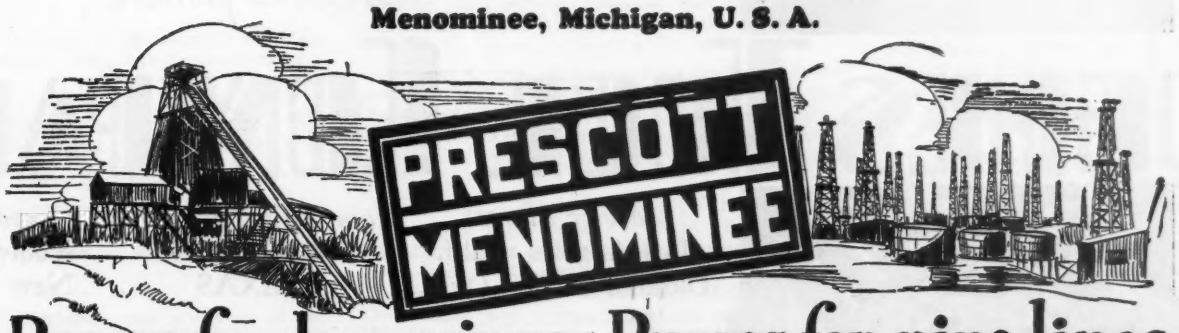
Keeping in view the necessity of lowest pumping cost and absolute reliability in service, the plunger type of construction has been adopted for all Prescott-Menominee Pumps for main line work.

Conservative data show that plunger pumps for pipe line service use 30 to 40% less power than other types of pumps in the same service. The saving in power alone that can be effected by a 30,000 bbl. unit amounts to about $12,000 a year with electric power @ $.0125 per kwh.

We will gladly submit estimates for your pumping requirements.

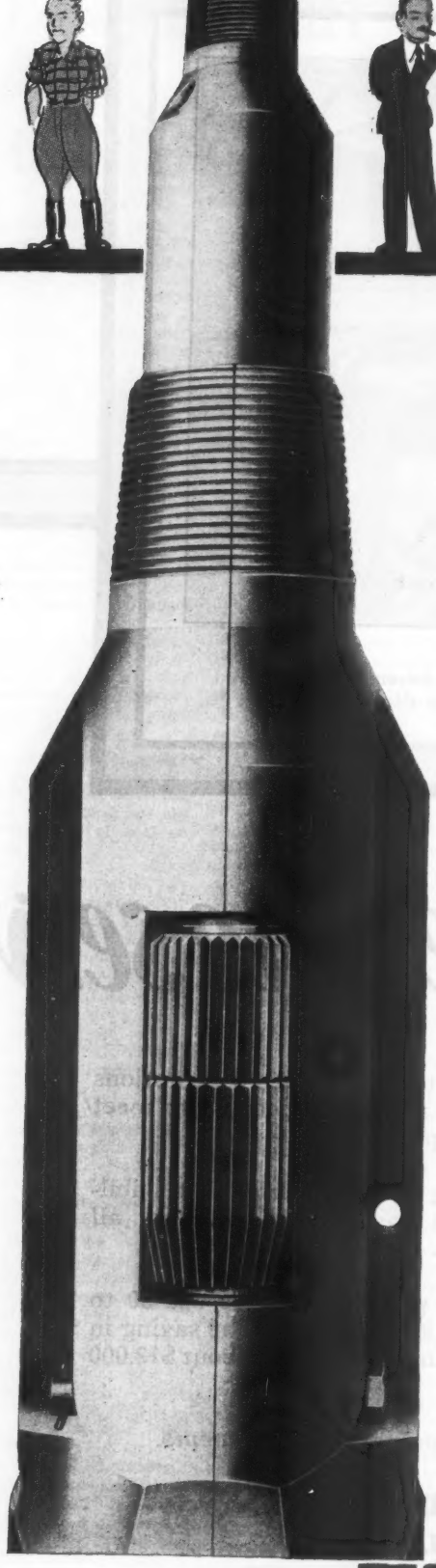
The Prescott Company

Menominee, Michigan, U. S. A.



Pumps for deep mines ~ Pumps for pipe lines

O&GJ 10-24 Gray



NINE out of TEN

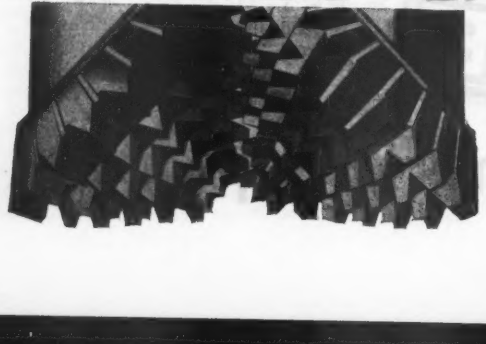
Rotary Contractors
Operators and Drillers
will tell you ~

HUGHES
ROCK BITS
and CONES

~ insure Safety,
Speed and Economy
in Drilling ~ ~

HH
Sold by supply
stores everywhere

HUGHES TOOL COMPANY



Service Plants:
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant:
HOUSTON,
TEXAS

Export Office:
Woolworth Bldg.
New York City

MEN KNOWN IN OILDOM

Robert B. Violette

Robert B. Violette, who resigned as attorney and assistant manager of the Texas-New Mexico division of the Independent Oil & Gas Company, with offices in Fort Worth, Tex., to become secretary and treasurer, and head of the land department of the Landreth Production Corporation in Fort Worth, was born in Winchester, Ill. He graduated from the State University of Illinois with an A.B. degree and a B.S. degree in law. Later he obtained his LL.B. degree from the University of Texas, and joined the law firm of Paddock-Massingill & Belew in Fort Worth. For three years he was in the Fort Worth office of the Independent Oil & Gas Company, first acting as attorney, and later as assistant to Gilbert Wood, manager.

The Landreth Production Corporation, of which E. A. Landreth is president, operates extensively in Texas and New Mexico, having approximately 80,000 acres under lease in West Texas and New Mexico and being active in the Taylor-Link and Girvin Pools in Pecos County, where it has several hundred acres under lease. The company also is building tank farms at McCamey, Tex., to handle oil from these pools which will be transported to the tank farm through its 8-inch pipe line.

PERSONAL PARAGRAPHS

Jo P. Cappeau, of Tulsa, was recently a visitor in Southwest Texas.

* * *

James P. Rees, of the H. L. Doherty Company, has been transferred to Shreveport, La.

* * *

T. H. Horn, Houston, Tex., independent oil operator, motored with his family to Ohio for a short pleasure trip.

* * *

Alex Boynton, president of the Frontier Oil Company of San Antonio, Tex., has returned from a visit to Tulsa.

* * *

G. M. Howard, of Kansas City, Mo., is now with the Industrial Naphtha & Solvent Company, of Wichita Falls, Tex.

* * *

John J. Kenney, of Pittsburgh, Pa., assistant general manager of the Eureka Pipe Line Company, and Mrs. Kenney, spent a week at Cambridge Springs, Pa.

* * *

John T. O'Neil, formerly vice president of the California Petroleum Company, is in Southwest Texas and has joined with J. Bland Catlett of Wyoming in some operations there.

O. K. Shannon, president, Fort Worth Gas Company, spent his vacation in California.

* * *

O'Brien Brothers, of Beaumont, Tex., are investigating Southwest Texas and entering on a program of operations.

* * *

Davis Wask, land man for the White Eagle Oil & Refining Company of Abilene, Tex., was a visitor in Fort Worth, Tex.

* * *

A. W. Major, of Laredo, Tex., has recently been on a trip through centers of oil activity in North Texas and Oklahoma.

* * *

Lew Wentz, of Ponca City, Okla., has recently been in Southwest Texas and is opening offices in the Milam Building in San Antonio.

* * *

J. B. Lebow, formerly with the Electric Bond & Share Company, has been appointed secretary-treasurer of the Louisiana Gas & Fuel Company.

* * *

W. C. Duncan, president of the Industrial Naphtha & Solvent Company of Wichita Falls, Tex., visited Tulsa making the trip by airplane.

* * *

Forrest M. Towl, New York City, president of the Southern Group of Pipe Lines, was a Pittsburgh, Pa., visitor. Mrs. Towl accompanied him.

* * *

S. C. Rogers, accountant for C. W. Webster, independent operator of Fort Worth, Tex., and Walter Henshaw are in Australia on a business trip.

* * *

"Trapshooter" Reilly, now devoting most of his attention to Southwest Texas, was recently in an automobile accident that laid him up for a few days.

* * *

Don Walker, chief engineer of the Wirt Franklin Petroleum Corporation returned to Ardmore, Okla., after a business and pleasure stay in Tulsa.

* * *

Former Governor Pat M. Neff, of Waco, Tex., was chosen to succeed Clarence E. Gilmore, late chairman of the state railroad commission, who died recently.

* * *

J. M. Patterson, of Odessa, Tex., who has been operating largely in West Texas, has moved to San Antonio and is making a study of the conditions in that country.

* * *

G. French, assistant manager of domestic lubricating oil sales of the Sinclair Refining Company, New York, spent several days at the Houston, Tex., offices of the company.

* * *

R. M. Hutchison is now gas engineer with the Houston Natural Gas Company, Houston, Tex. Previously he was in the employ of the Public Service Company, San Antonio, Tex.

* * *

H. V. K. Tompkins, assistant to the vice president of the Gulf Production Company, Houston. Tex., has returned from a summer vacation spent in New York and other eastern states.

* * *

W. S. Farish, president of the Humble Oil & Refining Company. Houston, Tex., has returned to his office after an absence of several months which included a tour of several European countries.

* * *

B. M. Nowery, N. C. McGowen and J. L. LeBow, of the Shreveport, La., headquarters of the Louisiana Gas & Fuel Company, and Ed Parkes, of the Monroe, La., offices, attended the Atlantic City convention of the American Gas Association.

* * *

Herman Grimm, who represents the second initial in the R. & G. Corporation, operating in Southwest Texas and responsible for bringing in the discovery well in the Agua Dulce Field in Nueces County, has been in a San Antonio, Tex., hospital for a time.

* * *

Miss Minette Ries, of Houston, Tex., has joined the staff of the Phillips Petroleum Corporation in San Angelo, Tex., as petrologist. She succeeds Miss Oleta Richey who married David Harrel of Austin, in June. Mr. Harrel was with the Shell Petroleum Corporation and shortly after the marriage both left for Java. Miss Ries graduated from the University of Arkansas in 1928 and received her M. A. degree from the University of Texas in August, 1929.

Bernard H. Lasky has opened a temporary office in Los Angeles, Calif., but is continuing his Tulsa residence and office.

* * *

Harry Oliver, formerly of Shreveport, La., has moved to San Antonio, Tex. He will devote the major part of his attention hereafter to Southwest Texas.

* * *

R. Y. Hanlon, of the National Lumber Manufacturers Association, was in Tulsa and other points in the Mid-Continent area in the interests of the association.

* * *

Harold C. Wright, publicity manager of International Harvester Company, made a tour of inspection of the Seminole district before returning to Chicago Thursday.

* * *

Paul Lyons, assistant chief scout of the Sinclair Oil & Gas Company in Tulsa, underwent a serious operation in a local hospital three weeks ago. He has recovered and returned to work.

* * *

E. F. Simms, pioneer oil operator, who now makes his home in Kentucky where he owns a stock farm and stables, spent several days looking over some of his extensive properties in Coastal Texas and Louisiana.

* * *

R. E. Shepherd has been appointed director of public relations and advertising manager of the Panhandle Refining Company of Wichita Falls, Tex. Mr. Shepherd was formerly mayor of Wichita Falls and is well known in Texas.

* * *

C. A. Prichard, formerly purchasing agent of the Continental Oil Company at Denver, Colo., has been appointed general purchasing agent of the Mid-Continent Petroleum Corporation of Tulsa. Mr. Prichard succeeds the late George C. Pohler.

* * *

G. L. Humason, Houston, Tex., known to Gulf Coast operators for various pieces of field equipment which he has invented, spent several days in El Paso and Southwest Texas fields where he has been conducting some experiments.

* * *

W. M. Sturges, who has been associated with the Anderson-Prichard Oil Corporation of Oklahoma City, Okla., for several years, has been appointed purchasing agent of the corporation. He succeeds H. G. Donnell who has been assigned to other duties.

* * *

L. E. and Robert Prince and S. W. Stewart, of the Creole Petroleum Corporation, a subsidiary of the Standard Oil Company of New Jersey, are spending a couple of months in the United States. Their present headquarters are Maturine, Venezuela, where they have been for the past five years with the Creole Petroleum Corporation. They were visitors at the Petroleum Exposition at Tulsa.

* * *

H. W. Perritt, inspector in charge of the Monroe, La., office of the minerals division of the Louisiana Conservation Department, has resigned to accept an offer from a company operating in the Monroe and Richland gas fields. Appointment of his successor was held up until the return of W. F. Chisholm, supervisor of the division, who attended the International Petroleum Exposition in Tulsa.

* * *

H. R. Thornburgh, P. L. Davis and I. M. Griffin, Jr., all formerly connected with the geophysical department of the Shell Petroleum Corporation, have organized the American Geophysical Company with headquarters in Houston, Tex. Mr. Thornburgh formerly was a district chief in West Texas working out of the Dallas office of the Shell; Mr. Davis was a field manager working out of Dallas, and Mr. Griffin worked out of both Dallas and Houston.

* * *

D. W. Harris, vice president; E. N. Watkins, secretary-treasurer; W. H. Buckley, pipe line superintendent; and J. H. Mobley, of the Arkansas Natural Gas Corporation, and Paul F. McBride, vice president and general manager of the Southern Cities Distributing Company, its retail subsidiary, were among Shreveport, La., executives attending the annual meeting of the American Gas Association at Atlantic City, N. J. S. A. Lipscomb, manager of the Arkansas Natural's new business department in Little Rock, Ark., also attended.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

PLACING OF PRESSURE WELLS

In considering the advisability of repressuring some of our wells a question has arisen as to the best place for locating pressure wells. At what point on the structure should these wells be placed to derive the greatest possible benefit?—E. G. N.

The position of the wells used for repressuring an oil reservoir must be determined by several conditions, such as the character and size of the structure, the mechanical condition of the wells on the lease, the position of offset wells, condition of edge water and gas zone, saturation of the sand when repressuring is started and sand porosity. C. E. Beecher in a paper presented before the A.I.M.E. petroleum division, says:

"To be most effective the wells must be so located that practically all producing wells derive some benefit from the pressure. Where gas is found in the top of the structure and water under pressure surrounds the oil it is estimated that best results can be obtained by locating pressure wells down the structure and not far from the edgewater line. Pressure thus applied will help to hold back the edge water and move the oil up structure. Other pressure wells located in the center of the oil zone will be necessary for proper distribution of pressure.

"Some advantage might be gained by forcing gas into the gas zone on top of the structure. Gas is more compressible than oil and therefore much larger volumes could be forced into the gas-bearing part of the structure at the same pressures required to inject gas into the oil zone. Large volumes of gas could be stored in this manner and at the same time force the oil away from the gas area to producing wells. Wells which will produce only gas or small volumes of oil with large volumes of gas should be shut in, otherwise the gas pressure will be reduced and the oil may migrate into the dry gas sand where a large portion of it will be unrecoverable.

"In fields where strictly gas areas do not exist and oil is distributed more or less uniformly, the pressure wells should be located to give the best distribution of pressure to the entire area. If edge water is a hazard it should be taken into consideration when locating the pressure wells."

On page 184 of the October 3 issue of The Oil and Gas Journal there is an article prepared by C. M. Nickerson, petroleum engineer for the United States Navy Department that covers "Repressuring in Depleted Oil Zones." It contains further data on the matter of location of key wells for repressuring.

COMMUNITY DRILLING PLAN

I wonder if you could supply me with the details of any community plan for drilling a well. Some of the companies here are contemplating such a well for the purpose of exploring to considerable depth. We wish to include as subscribers all of the leaseholders, land owners and other royalty holders if possible. We are anxious to profit by the experience of others, and if you know of any wells drilled according to such a plan we will be very glad to learn all details possible.—H. W. B.

This department does not know of any work being carried on under a community drilling plan such as you describe, but some 25 or 30 areas are being explored and produced under what is known as the unit control plan. In an article by L. G. E. Bignell, petroleum engineering editor, in The Oil and Gas Journal of October 10, page 56, you will find information concerning the general plan proposed for unit control operations.

Several of the major companies have such operations now in effect and seem satisfied with the results. It is probable that by addressing an inquiry to some of them you can get more specific information. It does seem as though the logical thing to do is to complete all drilling and producing plans before any work is started on the tract. Under such a plan the lease owners, fee owners and the producing company are all in accord before actual drilling begins. This department is unable to direct you to any one company that has been doing this kind of work, but it is known that most of the major companies have had some experience in it. It is assumed that you have personal acquaintanceship in one or more of these companies.

AVERAGE LIFE OF WELLS

I would like to know what the average life of wells in the proven fields of Oklahoma is—E. E. V.

It is safe to say that nobody can tell you the average life of wells in the proven fields of Oklahoma. It would be difficult to state even the average life of wells in any given pool or even in a given sand in a certain pool. For practical purposes there is no such thing as an average well. Much depends, to begin with, upon the policies of the operating companies. Some companies flow wells that produce only 10 to 15 bbls. a day. Other companies put wells on the pump as soon as production has fallen below 100 bbls, say. The time required for flush production to reach the stage of settled production varies in different areas and in different sands of the same area.

CORROSION OF TANK BOTTOMS

I am working on a lease in West Texas handling sulphur oil and we find that the tank bottoms in the bolted steel tanks we are using last only from 9 to 11 months, and not only do the bottoms corrode through but we are having a good deal of trouble with leaks in the side sheets up the sides of the tank about 4 inches from the bottom. What would you suggest as a remedy for this trouble?—L. M. W.

Your trouble with bottoms and the lower portions of the side sheets is probably due first to iron sulphide scale forming on the under side of the tank deck. This scale falls off and part of it comes to rest on the tank bottom. In the bottom settlings and salt water there is set up a galvanic action. The steel bottom acts as the anode and goes into solution. The iron sulphide scale is the cathode of the system. The liquid is the electrolyte.

The scale acts on the side sheets for a height of 3 or 4 inches from the bottom because it does not always reach the bottom of the tank, the sediment being thick enough to hold it in suspension. Holes thus appear in the side sheets as you state.

The remedy seems to lie first in reducing the amount of iron sulphide scale formed on the tank roof by coating the underside of the tank deck with a good paint. Two or three coats of aluminum paint have been found to be efficacious, and other paints have also given good results.

The next step is to protect the bottom and lower portions of the side sheets in some way that will keep any iron sulphide scale formed from actually coming to rest upon the steel forming the bottom of the tank.

When tank bottoms and side sheets have failed it has been found that a good concrete bottom can be poured inside the tank without cutting it down or moving it from its grade and after this concrete has set neat cement can be poured in the annular space left between the side sheets and the edge of the concrete slab due to shrinkage, or this opening can be filled with some substance that will pour but still is not soluble in the oil. If it will be possible to keep the cement covered with a thin body of water, tar or asphalt can be used to fill in the annular space referred to.

As this concrete bottom seems to help the tank after it has failed it would seem only logical to assume that if it is poured, even if in a very thin layer, before the steel bottom is destroyed it would tend to preserve the steel tank bottom and save shut-down time and loss of oil and the ultimate pouring of the concrete after the tank has been damaged.

If the side sheets have been too badly damaged and the holes extend up the sides more than 4 inches, it has been found possible to remove these sheets from the tank and use them in the upper ring of some other tank by patching the holes. Some companies are doing this patching by welding the patch plates over the holes and other holes can be made tight by using bolts and small pieces of sheet steel with rubber gasket for packing.

In Kansas fields it has been found that the steel side sheets can be used on a wooden bottom by drilling holes through the bottom to permit the insertion of bolts through it and the bottom flange of the side sheets. It is usual to use redwood for these bottoms and carefully match joints and draw the bottom boards together by using a ring of hoop iron about 2½ inches wide around the edge of the bottom and drawing it tight with hoop lugs.

These wooden bottoms are cut about 6 inches larger than the outside diameter of the steel tank flanges, and it is suggested that it might be possible to set a steel tank using side sheets only and pouring a concrete bottom directly on the grade but inside the tank, if this concrete is reinforced by the use of wire mesh or bars that are tied in some way to the steel side sheets.

These suggestions apply largely to the salvage of old tank material and making the best use of it that is possible, for it seems quite possible to give good life to the steel tanks if the interiors are carefully sprayed with not less than two good thick coats of aluminum paint, this paint to cover everything in the tank including deck, sides and bottoms and all other parts. The aluminum paint is giving good protection to the outside of tanks and metal structures and an all-aluminum tank has demonstrated its worth in recent years. This seems to indicate that aluminum as a metal or as used in paint is practically impervious to the actions of the sulphur compounds found in the oil and gas produced from the limestones of that area.

WHY WAS IT CALLED THAT?

BULL-

The prefix "bull-," found in names of numerous oil-field devices, might be traced back by philologists to Middle English and German dialect words which meant to make a loud noise, bellow, roar. Its significance in oil-field parlance, however, is seen in the modern use of the word "bull" to indicate great strength and endurance as exemplified in the farm animal which is supposed to harbor a peculiar distaste for red. When the prefix "bull-" appears in the name of a piece of equipment, that equipment usually is characterized by unusual size and strength, that is, bull-like. Bullwheel, bullrope, bull-pump are among such names.

PERCENTAGE OF DRY HOLES

Has any record been kept to show what percentage of oil wells drilled in this country do not strike oil at all and hence represent nothing but loss to the men who drill them?—D. Y. S.

More than one-fourth of all the wells drilled for petroleum or natural gas are failures, or dry holes. Thousands of wells are drilled to completion each year, and the records show that failures have averaged slightly in excess of 25 per cent. Besides this, many wells which are listed as productive when they are completed fall off rapidly and fail to maintain commercial production.

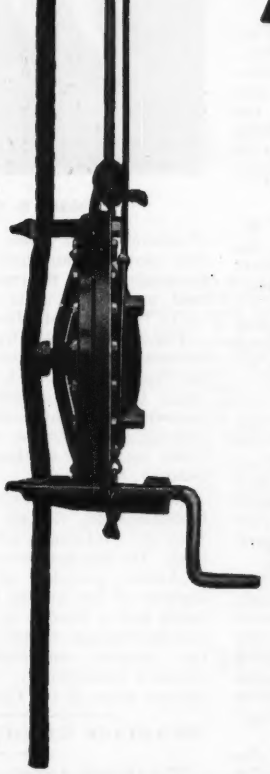
POWER FOR PUMPING WELLS

Within the last year and a half there appeared in one of your issues a paper on the power needed to pump oil wells by Mr. Brindel. May I ask you to inform me the date of this issue? I have a complete file of The Oil and Gas Journal.—S. M. G.

The article to which you refer, by H. F. Brindel, appeared in The Oil and Gas Journal of December 13, 1928, on page 80, along with a diagram for the graphic determination of horsepower required to pump oil wells from a central power.

MARTIN-LOOMIS AUTOMATIC RECORDING WEIGHT INDICATOR

The *best* that *money* will buy.



All gauges and recorders used in Martin-Loomis recording instruments are the best that money will buy. They are made to our specifications bigger and heavier so that they will stand the gaff of oil field use. All our gauges and recorders are built with Bourdon Tubes which withstand vibration and hard usage and insure accuracy.

Equip your Martin-Loomis Weight Indicator with the Outside-In Chart Recorder. It only costs $20 to make your old instrument new. Quickly and easily installed. Send for one today.

MARTIN-LOOMIS CORPORATION

Mid-Continent Distributors
Reed Roller Bit Company
Houston, Texas

2827 Cherry Ave.
LONG BEACH
CALIFORNIA

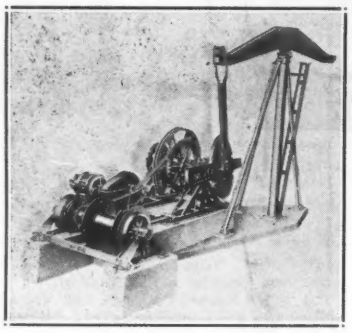
Foreign Distributors
Oil Well Supply Company
Pittsburgh, Pa.

WEIGHT, RECORDING, MEASUREMENT AND CONTROL

EQUIPMENT AND SUPPLIES

PUMPING UNIT GIVES A WIDE RANGE OF SPEEDS

The Emsco electric drilling and pumping unit provides a wide range of pumping speeds through changing the sprockets on the reduction gear shaft. There are



no vertical chain drives. The unit can be furnished with steel jack post assembly with the two jack posts mounted on a skid type base. The supporting members are made of heavy structural steel and provided with heavy turnbuckle brace rods. This assembly can be moved as a complete unit and transported by truck from one location to another.

The complete unit as shown includes the crank shaft with 42-tooth sprocket, 94-tooth double roller chain steel sprocket, split type tug rim, fabricated jack posts, Emsco type BC reduction gear mounted on skids, No. D-478 Diamond roller chain and type C pitman.

The use of chain drive from power unit to bandwheel and sand reel is not new. In 1924 Emsco furnished to one operator alone, approximately 100 silent chain-drive reduction gears equipped with sprocket and chain drive to bandwheel.

The chain drive proved to be extremely successful and it was found that the large diameter bandwheel could be eliminated when the chain drive was used. By eliminating the bandwheel more room was available and it enabled engineers to bring the various units closer together. The reduction gear therefore was mounted between the machinery support assembly and the sand reel.

A demonstration unit was rigged up at the Emsco plant. This unit incorporated a tug rim to which the sprocket was bolted. This arrangement subsequently was changed and the sprocket was made especially heavy and the tug rim was bolted to the sprocket. Along with this development the company introduced the type D machinery supports, making the jack posts independent of the sampson post and the foundation for the sand reel. At this period Emsco introduced the anti-friction roller bearings with selfaligning boxes on its two-post drawworks, and this new development was deemed worthy of application to the jack post boxes.

By mounting the reduction gear on a sliding base between the sand reel and the machinery supports less chain was required and adjustment of the drives could be maintained better.

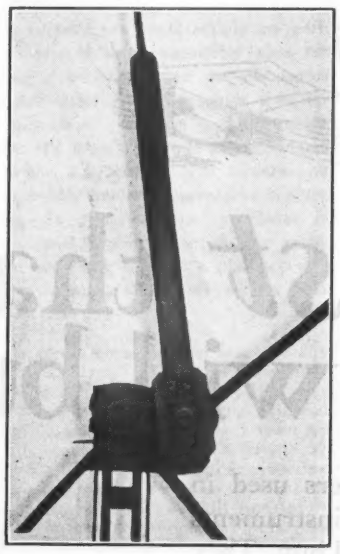
ADAMS DOES SPECIAL SERVICE

Wilson-Snyder Manufacturing Corp., Pittsburgh, Pa., builder of high-pressure slush pumps, announce the appointment of J. W. Adams as special traveling service and engineering representative. Before joining Wilson-Snyder, Mr. Adams had many years' experience in oil field engineering, and during the last year he gave special attention to slush pump operation, spending much time at the factory to become thoroughly acquainted with every detail of Wilson-Snyder slush pumps.

SELF-ALIGNING PITMAN ROLLER BEARING MADE

The great depths at which oil wells in California fields are being pumped and the resultant heavy strain upon all pumping equipment have confronted operators with problems in the design of pumping machinery. When ordinary bandwheel, pitman and walking beam are employed diffieulty has been caused by excessive vibration at the pitman bearing as it becomes worn under hard service.

To overcome this difficulty the California Manufacturing and Engineering Co.., Los Angeles, Calif., has designed a self-aligning pitman roller bearing which runs in a continuous bath of oil and is so equipped with oil retainers that there is practically no loss of the lubricant during operation. On a 5,400-foot well of one of the major oil companies operating on



the Babcock lease at Signal Hill it was found that only one pint of oil was used to lubricate the Calmec bearing over a period of four months. The same company recently ordered two more of these pitman bearings for operation on wells below the 6,100-foot depth.

The Calmec pitman bearing uses Timken rollers and is said to more than repay its initial cost through savings in labor and oil as well as by a reduction in the necessary pumping power resulting from smoother operation.

BUSINESS NOTES

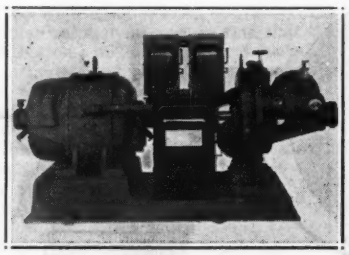
Dr. G. O. Curme, Jr., H. E. Thompson and R. W. White have been elected vice presidents of the Carbide & Carbon Chemicals Corp., New York.

C. E. Ruth, formerly of the engineering department of the Rust Engineering Co., has been made district sales manager of the Homestead Valve Manufacturing Co., Coraopolis, Pa., in the district including northern Pennsylvania, Ohio, western New York and Ontario.

Robert Bosch Magneto Co., Inc., has appointed Howard D. Hyle to its trade sales division as district representative for California, Wyoming, Colorado, Utah, Nevada, Arizona and New Mexico, with portions of Idaho, Texas and Nebraska.

Bailey & Becker Co. of Tulsa have been appointed distributors of Bettis protectors in the Oklahoma fields, according to Jack Ballagh, secretary of Patterson,Ballagh Corp. of Los Angeles, Calif.

HUTCHISON IN NEW FIELD



The accompanying picture shows the first steam generator set manufactured by the Hutchison Engineering Works, Chicago. The company is making these generator sets with a 9-inch steam turbine in capacities of 3 and 5 kilowatts and for lower steam pressures with a 12-inch turbine in capacities of 5 and 7 kilowatts. In addition the company has 16-inch and 20-inch turbines developed which it can apply on generators up to capacities of 25 kilowatts.

TRADE LITERATURE RECEIVED

The Mine Safety Appliance Co., Pittsburgh, has just issued a catalog of 160 pages covering "Everything for Mine and Industrial Safety," including Edison electric safety cap lamps and accessories, permissible shot firing devices, Wolf flame safety lamps, gas and air measuring devices, oxygen breathing apparatus, gas detectors and recorders, resuscitation equipment, eye and head protective equipment, safety clothing, and first aid supplies.

Bulletin No. 305, issued by the Connersville Blower Co., Connersville, Ind., illustrates by views of different installations the adaptability of Connersville patented rotary displacement meters to the unusual as well as ordinary requirements for the accurate measurement of gas in manufacturing, distribution and industrial consumer installations.

A bulletin prepared by William W. Nugent & Co., Chicago, deals with the subject of salvaging crankcase drainings by means of the Nugent fuel oil filters.

The fall number of the Dutch Boy Quarterly, published by the National Lead Co., New York, contains interesting articles on the use of paints.

A new 64-page booklet illustrates and describes Ingersoll-Rand equipment for use in the petroleum industry from exploration to refining. The company also has issued new editions of Bulletins 3,058 and 3,149, which describe its 90 and 180 horsepower gas engine-driven compressors.

The Laclede-Christy Clay Products Co., St. Louis, Mo., manufacturer of fire brick, calls attention to its eighty-fifth anniversary by sending out an attractive folder which contrasts 1844 with 1929. "The average life of a manufacturing business is seven years," it says. "We've been alive 85 years and are still growing."

"Caterpillar Tractors in the Oil Industry" is the subject of an interesting and informative illustrated booklet prepared by the Caterpillar Tractor Co., San Leandro, Calif.

The current number of the Lufkin Line, published by the Lufkin Foundry & Machine Co., Lufkin, Tex., is designated as the Salt Flat edition and is devoted largely to items connected with the Salt Flat, or Joe Bruner Field, in Texas.

H. S. GREENE APPOINTED PRESIDENT'S ASSISTANT

Hibbard S. Greene, former vice president and director of the Barber-Greene Co. of Aurora, Ill., has been appointed assistant to the president of the Chain Belt Co., Milwaukee, Wis. Mr. Greene will co-ordinate the marketing plans of the Chain Belt Co., Sivyer Steel Casting Co., Federal Malleable Co., and the Interstate Drop Forge Co., all of Milwaukee, and the Stearns Conveyor Co. of Cleveland, Ohio, a division of the Chain Belt Co. The same financial interests control the companies named. A wide range of products will be covered in the plan.

The Chain Belt Co. manufactures construction machinery, including concrete mixers, pavers, pumps, saw rigs, conveying systems, power plant equipment, including coal and ash handling equipment, traveling water screens, and a complete line of conveying and transmission chains. The products of the Chain Belt Co. are

Hibbard S. Greene

all trade-marked under the name "Rex." Belt conveyors and belt idlers are manufactured at the Stearns plant in Cleveland and these units are trademarked under the name of "Rex-Stearns."

The Sivyer Steel Casting Co. manufactures high-grade steel castings and alloy steel castings. The Interstate Drop Forge Co. makes small forgings for the industrial and automotive trades. The Federal Malleable Co. manufactures certified malleable castings and other specialties.

Before the Barber-Greene Co. was established, Mr. Greene was connected with the National Carbon Co. in Cleveland. He has been active in civic affairs in Aurora, president of the Rotary club, director of the Aurora Chamber of Commerce and a director of other enterprises and institutions, as well as the director of the Aurora community fund. Mr. Greene's headquarters will be at the Milwaukee plant of the Chain Belt Co.

TWO-STAGE OXYGEN REGULATOR

The Oxweld Acetylene Co., New York, has added to the Prest-O-Weld line a two-stage oxygen regulator, designed to eliminate fluctuation in working oxygen pressures. This regulator, which is designated Type R-109, incorporates the stem-type valves, which have proved satisfactory in single-stage regulators. The chief feature of the improved design is two-stage pressure reduction, accomplished through the medium of two independent sets of diaphragms, valves and springs.

New H.C.SMITH TOOLS

that meet every condition of modern coring, reaming and drilling operations.

H. C. Smith Type "C" Drilling Bit with Roller Reamer Body: Makes faster hole and straight hole. Two-point roller reamers steadies bit in hole and insures straight hole. Reamer rollers same diameter as bit, eliminating necessity of reaming down in order to get new bit on bottom. Bit retains same serrated design which has proved so successful in previous H. C. Smith bits and can be run with side reamer body or plain body.

The new Type "F" Rock Core Bit Head: Designed especially for coring in rock formations. Interchangeable with H. C. Smith Type "C" regular Coring Outfit. This tool makes the H. C. Smith line of core heads complete for all formations ranging from schist quartz and chert to the softer sand chalk, anhydrites and shales.

H. C. Smith Type "CI" Underreamer: Never gets stuck in the hole. Hydraulic control insures expansion of roller cutters at any desired point in the hole and enables driller to know positively when in expanded position. Positive closing feature eliminates all possibility of sticking or dragging when coming out.

H. C. Smith Type "C" Coring Outfit: Widely used in all fields. Takes perfect cores in any formation that a fishtail or disc bit will penetrate. Renewable cutterheads. Drop forged steel throughout

H. C. Smith Draw Works Brake Attachment: With leverage ratio increased about 3 to 1 over the conventional type, eliminates kickback of the brake rod. Considerably lessens labor and shock ordinarily experienced by driller. Sturdy and capable of withstanding a tremendous amount of abuse. Adaptable to all types of Emsco, Union Tool and Oil Well Brake Bands.

For detailed information on any or all H. C. Smith Tools, write for illustrated bulletins.

H. C. SMITH MANUFACTURING CO., INC.

Los Nietos, California

Branch Offices and Warehouses:

Bakersfield, Calif. Ventura, Calif.

Cable Address: "Smithco, Whittier"

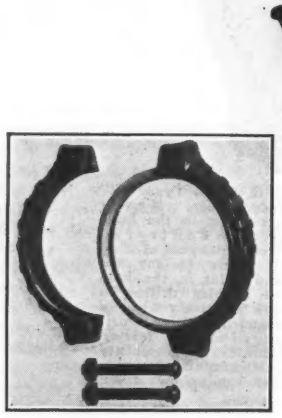
Oil Well Supply Co., Exclusive Sales Distributors, Outside of California, for H. C. Smith Coring Equipment and Demountable Drilling Bits.

On and after No

Hanlon-W

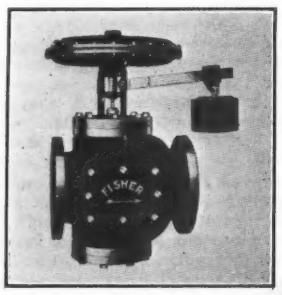
represent

VICTAULIC COMPA



"Leak-proof" has become a trade name for Vic
to the Oil Industry a few short years ago. Tod
in every line", are connecting hundreds of mi
sewage lines throughout the country. Victaul
tools are carried in stock at all times.

FISHER GOVERN



Almost since the inception of the Oil Industry
ing the producer and refiner with unfailing acc
stock of Fisher regulators and control equipme
immediate delivery to Mid-Continent oil field

REED AIR FILT

Reed Air Filters represent the practical solutio
everywhere in plant and field operations. A R
pressor returns its initial cost many times in hi
All types for every filtering purpose are avai labl

The new Hanlon-Waters oil and gas separator—a departure from the conven

General Offices:
TULSA, OKLA.

HANLON-WA

November first..

Waters, Inc.

esenting

PANY OF AMERICA

r Victaulic Couplings since their introduction
Today Victaulic Couplings "For every joint
of miles of oil, gas, gasoline, water, air and
ictaulic Couplings, pipe cutters and grooving

VICTAULIC COUPLINGS
"For every Joint in every Line"

RNOR COMPANY

ustry itself, Fisher Specialties have been serv-
ng accuracy and dependability. A complete
uipment is carried at our Tulsa warehouse for
field points.

FISHER *dependable* **SPECIALTIES**

TER COMPANY

olution of the bad air problems to be found
A Reed Air Filter on every engine and com-
in higher efficiency and lower maintenance.
vailable for immediate shipment.

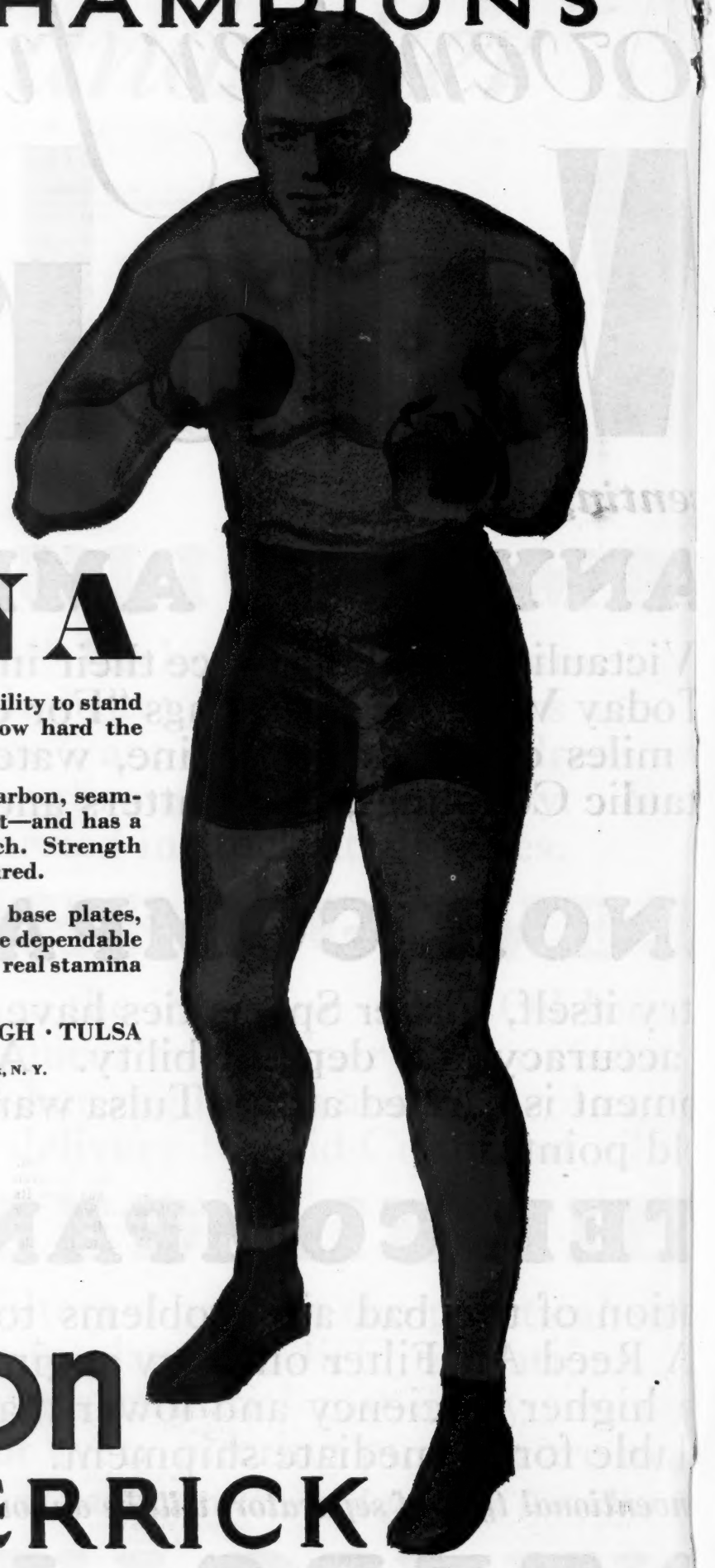
REED AIR IS *CLEAN* AIR

conventional type of separator, will be announced within the near future.

ATERS, Inc.

P. O. Box: 1404
Telephone 51138
L. D. 398

AMONG CHAMPIONS



STAMINA

Stamina is strength that can be depended on; the ability to stand up under punishment and keep on, no matter how hard the going. Stamina is a Champion characteristic.

Moore Champion Derrick leg sections are of 40-50 carbon, seamless steel pipe. This is A. P. I. Grade "C"—the best—and has a minimum yield point of 45,000 pounds per square inch. Strength in the legs—where the greatest loads come—is assured.

Structural steel bracing, one-piece clamps, heavy base plates, rigid tops and all other parts of the derrick add to the dependable strength of the structure. The Moore Derrick has the real stamina of a Champion.

LEE C. MOORE AND COMPANY, INC., PITTSBURGH · TULSA

ESTABLISHED 1907

New York Offices: Oilfield Equipment Company—30 Church St., New York, N. Y.

DALLAS, TEXAS
CASPER, WYO. HOUSTON, TEXAS WICHITA, KANSAS
SHREVEPORT, LA.

Stocks in All Principal Fields

THE Moore Champion DERRICK

Natural Gas Developments

MUSKEGON COUNTIES TRYING TO SAVE GAS

MUSKEGON, Mich., Oct. 21.—Dry gas from the Bell Gasoline Corp.'s portable absorption plant in the Muskegon oil field is to be compressed by the West Michigan Consumers Co. and delivered for use in Greater Muskegon. The West Michigan company is laying 6 and 8-inch lines from its compressor station in Section 8, Muskegon Township, to the Bell corporation plant in Section 7, a distance of about 1 mile.

This is one of the steps now being taken to conserve all possible gas in the Muskegon Field for industrial and domestic consumption in Muskegon where consumers are facing an early return to artificial gas as a result of the heavy pull on the field.

The Muskegon Traction & Lighting Co., operator of the Muskegon gas plant, is preparing for the change back to manufactured gas by installation of new water gas equipment and erection of a new 1,500,000-foot holder to augment the present facilities. The company will spend about $250,000 to improve its water gas plant.

The Brunswick-Balke Collender Co., which requires about 1,250,000 feet of natural gas a day under the present schedule, is being changed over from the Continental Motors Corp.'s gas line to the West Michigan Consumers Co.'s line. The Continental is experiencing difficulty in getting enough natural gas to supply its own needs.

PHILADELPHIA GAS LINE

Completion of a new 20-inch gas distribution pipe line 10 miles long connecting the plant of the Philadelphia Coke Co. with the Point Breeze plant of the Philadelphia Gas Works is announced by Eastern Gas & Fuel Associates, a Massachusetts voluntary trust recently formed by the Koppers interests. The Philadelphia Coke Co. is a subsidiary of Eastern Gas & Fuel Associates and sells its coal gas production under long-term contract to the Philadelphia Gas Works which serves Philadelphia.

Commencing January 1, 1930, the Philadelphia Coke Co. will manufacture for distribution and sale in Philadelphia a minimum of 20,000,000 feet of gas a day for 10 months of the year and 16,000,000 feet of gas a day for two months of the year. Total production of gas by this plant in 1930 will be in excess of 7,000,000,000 feet. The Philadelphia Coke Co.'s plant was placed in operation in January, 1929. The plant has an annual coal carbonizing capacity of 650,000 tons.

COLUMBIAN CARBON CO.

Offering of rights to subscribe to 41,161 additional shares of common stock of Columbian Carbon Co. at $175 a share, in the ratio of 9 new shares for every 100 held, will bring $7,203,175 to the company. These additional funds will be used for expansion, largely in connection with the natural gas projects in which the company holds an interest. Additional stock will increase the amount outstanding to 498,505 no-par shares out of an authorized 500,000.

Although the carbon black business has displayed increasing growth, the volume rising from 64,888,416 pounds produced in 1925 to 79,194,473 pounds last year, which will be exceeded in the current year, it is the sales of natural gas for industrial use from properties in Louisiana and Texas which will yield the major portion of the company's future income.

PLAN TO STORE MANUFACTURED GAS IN DEPLETED GAS AND OIL SANDS

By S. W. Meals

President, Carnegie Natural Gas Co., Pittsburgh, Pa., and chairman, Natural Gas Department, American Gas Association*

The natural gas industry requires very few aboveground gas holders as the sands from which the wells produce are a natural reservoir or storage. Since 1927 in sections of Oklahoma, Texas and California, large volumes of gas have been stored in gas and oil bearing sands as a conservation measure. The tail gas from gasoline plants has been injected and this practice in a number of localities has proven very successful not only in conserving gas but in increasing the production of oil. Injecting natural gas in partly depleted sands for storage purposes has not been carried on to any great extent although a few of the larger companies in the East have, for a number of years, used this practice as an operating convenience. The relatively large industrial load enjoyed by many natural gas companies has leveled the total load curve and has limited the need for aboveground storage.

The largest gas storage field of which we have knowledge is located in central Kentucky. The formation in which the gas has been stored is found at a depth of less than 1,000 feet and covers an area of about 27 square miles, with about 80 wells. The gas is metered as it is injected into the sand. It requires 218,000,000 feet to raise the rock pressure 1 pound and if this amount is withdrawn, it reduces the rock pressure 1 pound. About 8,000,000,000 feet of natural gas has been stored in a natural storage reservoir. This one storage field with a pressure of 70 pounds holds more than six times the total of all the manufactured gas holder capacity in the United States.

The Zoar storage field, 30 miles south of Buffalo, N. Y., is a valuable asset to the company supplying gas to Buffalo. There are 23 wells in the field and with 50 pounds differential over line pressure, 10,000,000 feet per day can be taken out to meet their peak demands.

A detailed report of Continental Oil Co.'s experience in repressuring their South Ponca Field in Oklahoma states many of the wells were drilled in 1912 and 1913. In 1925 wells were being plugged rapidly due to depletion of the gas, therefore, the total oil production had decreased to 42 bbls. per day. Recently the company began repressuring this property and is now recovering 650 bbls. per day. Some of the wells which were formerly pumping now flow their production. The company is using seven key wells, pumping the dry gas from its gasoline plant into those key wells. Back pressure is held on the wells in order that only the gas necessary to flow the oil is liberated.

One company, operating in West Virginia and Ohio, has had an engineering firm make a proper study of its oil properties and at this time has a number of properties under pressure. The result is an increase of from 500 to 600 per cent in the oil production.

Great Help in Future

The object of this association is to promote and develop the gas industry. "Operate Without Waste" should be our slogan. With this in mind, I wish to present to our industry a new idea which I believe will not only prove a panacea for many manufactured gas operations, but a great help in the future to the natural gas and oil industry, and a blessing to man as a conservation measure. Manufactured gas can be properly cleaned and stored in depleted or partly depleted oil and gas bearing formations in the earth, recovered when needed and due to the hydrocarbons still remaining in the sands, the gas recovered will be considerably heavier and richer. The lean gas, having affinity for the richer hydrocarbons, will recover and remove from the sands valuable fuel that otherwise would be entirely lost.

One of the operating companies in the Pittsburgh district, secured all the wells and royalty interests in a gas field, proceeded to experiment in cleaning and storing manufactured gas in one of the deep white sand formations. The entire production from this field, before manufac-

(Continued on Page 113)

*Before Natural Gas Department meeting, American Gas Association Convention, Atlantic City, N. J., October 14-18.

SOUTHWEST LOUISIANA TOWNS SEEKING GAS

LAFAYETTE, La., Oct. 19.—A movement to obtain natural gas for cities and towns throughout Southwest Louisiana will be inaugurated when representatives of the section gather here November 5 for a conference.

The call was issued by Mayor Leon Locke of Lake Charles, joined by the mayors of 14 other municipalities in the district, who will be present with other representatives of civic and commercial organizations.

Included in the group with Mayor Locke of Lake Charles are: Mayor J. Gilbert St. Julien of Lafayette, Mayor W. R. Middleton of DeRidder, Mayor H. E. Norman of Morgan City, Mayor John W. Armstrong of Welsh, Mayor E. M. Laborde of Marksville, Mayor J. B. Lewis of Eunice, Mayor P. U. Broussard of Abbeville, Mayor H. Gordon Brunson of Crowley, Mayor F. E. Farris of DeQuincy, Mayor David Hollier of Opelousas, Mayor Felix Perres of Rayne, Mayor Ludwig Geiling of Baldwin, Mayor Joseph A. Daigle of New Iberia, and J. C. Hazel, president of the Jennings Chamber of Commerce.

CALIFORNIA GAS SERVICE

The city of San Jose having been changed to natural gas other localities south of and including Hayward and Daly City will follow as the trained men are released from the area in which the change-over has been accomplished. The first areas to be converted to natural gas will be the city of Santa Clara and peninsula towns and cities south of San Mateo, and the area served in the vicinity of Niles, Newark and Decoto.

The new service of Kettleman Hills natural gas will be begun without any immediate change in rates, the matter of rates now being before the Railroad Commission on application of the company to fix charges for the new type of service.

Natural gas of twice the efficiency of the present artificial fuel will be supplied consumers of the Modesto Gas Co. in the immediate future at no extra cost, Frank A. Grassey, president, testified before Railroad Commissioner Ezra DeCoto.

Kettleman Hills gas will be available to consumers in Hanford by the middle of the present month. The pipe line from the Kettleman fields will be connected with the Hanford distribution system of the Southern California Gas Co. It is understood natural gas will be turned on in Tulare, Visalia and other southern valley towns at the same time it is turned on in Hanford.

CHEAPER NON-TOXIC GAS FORECAST BY COL. FOGG

While the progress of the gas industry has been steady and sure for more than a century, the application of modern research principles may develop such possibilities as the production of a substantially cheaper gas, better than the present commodity as well as nontoxic in character, according to a statement made at the annual convention of the Empire State Gas & Electric Association, by Oscar H. Fogg, of New York, president of the American Gas Association and vice president of the Consolidated Gas Co. of New York.

Colonel Fogg stated that it is within the realm of possibility a gas will be developed devoid of all asphyxiation hazard either in the "free state" or in the products of combustion. He added that "a cheaper gas would mean a gas at a cost substantially lower than that realized in the best and most efficient production processes of today." By a better gas he meant a fuel gas that would require no "primary air" and this would remove the necessity of burner adjustments, etc.

"Coupled with these developments, there will be the contributing factors of rate structure and sales efficiency, which in the course of time should enable gas to displace all bulky smoke producing fuels," Colonel Fogg stated. "We will surely not omit a continuous development and progressive improvement in public and industrial relations nor will we ignore the benefits of applying sound systems of regulation whose salutory object will be to reward enlightened management and share the enlarged prosperity thereof equitably among the owners, the consuming public and the employes."

Colonel Fogg stated that the new mental attitude in the gas industry which prompts the investing of millions of dollars in research owes its existence to actual accomplishment and demonstrations of the power of research to effect improvements and economies in the various departments of gas service. He said that already there are certain shifts in the character and kind of raw materials used, the increasing mechanization of plant and operations, vital changes in distribution practice, and readaptation to meet changed living conditions.

He continued as follows: "We have prided ourselves in the past, and we may continue to derive satisfaction from the fact that the gas industry has gone ahead steadily year after year, extending its facilities and demonstrating its inherent stability in a consistent record of orderly progress and growth."

In concluding Colonel Fogg stated that "today the gas industry is departing from beaten paths. While 'near miracles' are not expected and while some of the work of the industry has its visionary aspects," he stated "that in his opinion the goal of practical accomplishment stands before all of the research projects."

RICHLAND CARBON PLANTS

SHREVEPORT, La., Oct. 21.—International Gas Products Co., of Monroe, La., has completed and placed in operation the first unit of its carbon plant at Mangham, in the Richland Parish gas field. A gasoline plant, the residue gas from which will be used by the carbon units, is nearing completion. The carbon plant is the first to get under way in the Richland Field and consists of one 30-unit and one 20-unit installation having a daily capacity of approximately 20,000 pounds daily. A second plant, under construction by the Century Carbon Co., is to be ready for operation early in 1930.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 59)

CATAHOULA PARISH

Lochnager Pet. Co.'s No. 1 Taliaferro, 572 ft. E. 396 ft. S, C, Sec. 26-9-6 ..... S.D. 900 ft.

CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 ..... S.D. fuel; T.D. 1,615 ft.
Leue Oil Co.'s No. 1 Taylor, Sec. 16-22-6 ..... Derrick.
Triangle Drlg. Co.'s No. 1 Kilpatrick, 660 ft. S, 660 ft. E, NW cor. SW NE, Sec. 7-19-5 ..... Cmtd. 15½-in. 496 ft.; building heavier derrick.

DESOTO PARISH

Benson Oil Co.'s No. 1 Hill, 1,8455 ft. S, 1,26 ft. W, NE cor., Sec. 4-10-13 ..... Began drlg. Oct. 13; S.D. for wtr. 100 ft.
P. J. Becker, trustee's No. 1 Tull, SW cor. NE NE, Sec. 23-12-15 ..... Fishing 7 joints drill stem; T.D. 2,475 ft.
Longstreet Synd.'s No. 1 Ramsey, NE cor. SW NE, Sec. 33-13-16 ..... Changing to heavy rig and arranging to sidetrack; T.D. 2,802 ft.
Magnolia Pet. Co.'s No. 1 Anna Mason, 990 ft. S, 990 ft. E, NW cor. SW, Sec. 27-12-11 ..... Drlg. 1,295 ft.
R. O. Roy's No. 1 Rogers, Sec. 13-13-14 ..... Drlg. 2,940 ft.

FRANKLIN PARISH

Davis et als' No 1 Moore, 600 ft. W, 200 ft. S, NE cor. Sec. 12-11-6 ..... S.D. 1,430 ft.

LASALLE PARISH

Tunica Pet. Co.'s No. 50 L. & A., 200 ft. N, 660 ft. E, SW cor. NW, Sec. 16-7-2e ..... Cmtd. 6-in. 802 ft.; S.D.; W.O.S.R.; T.D. 815 ft.

MOREHOUSE PARISH

J. P. White's No. 1 Chess-Wymond, Sec. 32-19-6 ..... Tested S.W. 3,025 ft; W.O.
Rainbow Oil Co.'s No. 1 Louisville Cooperage Co., 990 ft. S and E, NW cor. NE, Sec. 33-22-8 ..... Derrick.

NATCHITOCHES PARISH

S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 8 ft.; S.D. for orders; T.D. 2,536 ft.
Nichols & Wilder's No. 1 Clark, 150 ft. W, 250 ft. N, SE cor., Sec. 10-10-8 ..... Rigging up.
Robeline O. & G. Co.'s No. 1, NE SW, Sec. 7-8-9 ..... Drill stem stuck; waiting orders; claim show gas; T.D. 3,230 ft.

OUACHITA PARISH

Farish & Russell's No. 1 School fee, NE, Sce. 16-16-4 .... S.D.; W.O. 4,350 ft.
S. D. Hunter's No. 1 West Va. Lbr. Co. N½ NE, Sec 26-18-5 ..... Cm d. 15½-in. 147 ft; 12½-in. 820 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-2e ..... S.D. for water; T.D. 900 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. S, NW cor., Sec. 32-14-10 ..... Drlg. 820 ft.
Benedum & Trees Oil Co.'s No. 1 Franklin Realty Co., 350 ft. E, 350 ft. S, NW cor., Sec. 29-11-9 ..... Drlg. 3,385 ft.
Eylers O. & G. Co.'s No. 4 Chaffraix, 150 ft. S, 170 ft. W, NE cor. SW SE, Sec. 30-12-10 ..... Drlg. 2,495 ft.
LeGrande et als' No. 1 Sample, Sec. 11-14-11 ..... Rigging up.
D. H. Riddick's No. 1 Johnson, 500 ft. N, 500 ft. W, SE cor., Sec. 17-12-10 ..... Rigging up.

RICHLAND PARISH

Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6, Waiting orders; T.D. 2,679 ft.
Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6 ..... Tested S.W.; W.O. 2,477 ft.
Austin & McDonald's No. 4 Millsaps, NW cor., Sec. 16-7-6. Location.
Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6 ..... Derrick.
Palmer Corp.'s No. 2 Miles, 723 ft., E, 660 ft. S, NW cor. NE, Sec. 12-17-6 ..... Cmtd. 6-in. 2,315 ft.
United Carbon Co.'s No. 1 Thornby, 660 ft. W, 650 ft. N, SE cor. NW NE, Sec. 13-16-6 ..... Cmtd. 6-in. 2,280 ft; drlg. 2,415 ft.

SABINE PARISH

R. L. Gay's No. 1-A Bowman-Hicks, 900 ft. S, 200 ft. E, C, Sec. 34-8-12 ..... Drlg. 1,099 ft.
R. L. Gay, trustee's No. 4 Bowman-Hicks, SE cor. NW SE, Sec. 14-7-14 ..... W.O.S.R.; 1,800 ft. in oil, little S. W.; T.D. 2,350 ft.
R. L. Gay's No. 5 Bowman-Hicks, 1,120 ft. W, 920 ft. N, SE cor., Sec. 14-7-14 ..... Location.
R. L. Gay, trustee's No. 1 Long-Bell Lbr. Co., NE cor. NW NW, Sec. 26-8-14 ..... Waiting on 6-in. to set; T.D. 3,425 ft.
R. L. Gay, trustee's No. 2 Sabine Lbr. Co., Sec. 23-7-14.. Cmtd. 6-in. 3,547 ft.

UNION PARISH

Fred Stovall's No. 1 Stovall, 1,820 ft. E, 350 ft. N, SW cor., Sec. 32-23-4 ..... Rig up.

WEBSTER PARISH

F. M. Fuller's No. 1 Monzingo, 200 ft. N, 200 ft. W, SE cor., Sec. 27-18-8 ..... Rig up.
Paul C. Warren et al's No. 1 Martin, 305 ft. N, 212 ft. E, SW cor. Sec. 20-20-9 ..... Derrick.

WEST CARROLL PARISH

Palmer Corp.'s No. 1 Marston, 3,958 ft. N, 1,855 ft. E, SW cor., Sec. 12-19-10 ..... Cmtd. 6-in. 2,303 ft.

ARKANSAS

ASHLEY COUNTY

J. G. Marcum, trustee's No. 1 McGarry, 300 ft. W, 100 ft. S, C, Sec. 9-19-4 ..... Top gas rock 2,846 ft; drlg. brown lime 3,019 ft.

CLARK COUNTY

Wm. Henry, trustee's No. 1 Clark, Sec. 34-9-21 ..... S.D. 1,200 ft.

COLUMBIA COUNTY

Talbot & Markle's No. 1 Copeland, 300 ft. S, 300 ft. W, NE cor. SE NW, Sec. 31-19-19 ..... Drlg. gummy shale 2,830 ft.

FAULKNER COUNTY

Gold Creek Oil & Gas Co.'s No. 2 Stermer, SE cor. NW SE, Sec. 17-4-13 ..... Rigging up.

GARLAND COUNTY

Givens et als' No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... Began drlg. Aug. 10, 1926; hard sand 3,168-96 ft.; claims show gas; drlg.

GRANT COUNTY

Jones & Watkins' No. 1 Meek, Sec. 5-4-11 ..... T.A. 1,400 ft.

JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 2 Bynum, Sec. 12-10-24 ..... Drlg. shale 3,700 ft.

LINCOLN COUNTY

Pine Prairie O. & G. Co.'s No. 1 Carter ..... T.A. 2,176 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 .... Drlg. 2,020 ft.
Grotte et als' No. 1 Allen, Sec. 31-12-31 ..... T.A. 2,941 ft.
McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE, Sec. 12-13-28 ..... S.D. 1,542 ft.

LOGAN COUNTY

Ark. Nat. Gas Corp.'s No. 1 Hanna, Sec. 26-7-23 ..... Drlg. heaving shale 4,140 ft.

MADISON COUNTY

Phillips Pet. Co. and F. S. Craver's No. 1, C, Sec. 11-14-28. Tested 250,000 ft. gas 63 ft.; drlg. sandy lime 1,300 ft.

MILLER COUNTY

E. B. Lenz et als' No. 1 Bossier Co., NW cor. Sec. 13-15-26 Drlg. 2,820 ft.

OUACHITA COUNTY

Copenhaven et als' No. 1 Warnick, Sec. 2-15-17 ..... S.D. 2,190 ft.
C. H. McDonald's No. 1 Fogle, Sec. 13-14-16 ..... S.D. 2,301 ft.; W.O.
Timberlake et als' No 1 Cronner NW cor. SE NE, Sec. 26-14-18 ..... D.S. test dry 2,092-96 ft; coring 2,472 ft.
The Texas Co.'s No. 1 Avery, 250 ft. N, 250 ft. E, SW cor., Sec. 35-15-15 ..... Cleaning out; T.D. 1,984 ft.
Wesson et als' No. 1 Booth, Sec. 12-15-19 ..... S.D. 2,203 ft.

POPE COUNTY

Ark.-La. P. L. Co.'s No. 1 McFaddin, Sec. 15-9-21 ..... Cmtd. 12½-in. 390 ft; drlg. 700 ft.

PRAIRIE COUNTY

Transcontinental Oil Co.'s No. 1 Louis Novak, 330 ft. E, 330 ft. N, SW cor. SW NE, Sec. 36-2n-6 ..... Rigging up.

UNION COUNTY

Addie & Modisette's No. 1 Union Sawmill, SW cor. SW SE, Sec. 25-19-13 ..... Location.
Ark. Drlg. Co.'s No. 1 Norris, 150 ft. S, 150 ft. W, NE cor. SE SE, Sec. 17-18-12 ..... Drlg. 500 ft.
Sam Arrendale's No. 1 Gallagher & Nelson, 200 ft. N and W, SE cor. Lot 5, Sec. 18-18-17 ..... S.D. 2,268 ft.
W. M. Coates, trustee's No. 1 McDuffie, Sec. 32-19-17 .... Cmtd. 6⅝-in. 3,942 ft; to test 4½-ft. sand; T.D. 4,057 ft.
O. W. Estes' No. 1 Felsenthal, 330 ft. S, 330 ft. W, NE cor. NE NW Sec. 2-18-15 ..... S.D; W.O. 125 ft. oil and S.W. in hole; T.D. 2,191 ft.
E. M. Jones' No. 1 Loutre Lbr. Co., NE cor. NW SW, Sec. 17-19-14 ..... Drlg. 2,217 ft.
E. M. Jones' No. 1 Hardy & Murphy, 216 ft. N, 256 ft. W, SE cor. SW, Sec. 34-19-14 ..... S.D. repairing rig; 3,642 ft.
Stark et als' No. 1 Ainsworth, NE cor. NW NE, Sec. 8-19-16 ..... Derrick.
T. J. Woodley's No. 1 First Natl. Bank, NW cor., Sec. 34-19-18 ..... Derrick.

VAN BUREN COUNTY

Glenn Cole et als, trustee's No. 1 Scanlan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

O'Hara & Shetterly's No. 1 Boyd, SE cor. SE NE, Sec. 12-16-32 ..... Spudded Sept., 1928; S.D. 140 ft.; resumed drlg. Aug. 25; U.R.; T.D. 150 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Cmtd. 6-in. 1,320 ft.; S.D. 1,342 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32. S.D. 1,040 ft.; repairs.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8. Drlg. black caving shale 3,490-3,500 ft.

EAST TEXAS

CAMP COUNTY

Rogers et als' No. 1 Enfelt, R. M. Montgomery Sur. .... Tested dry 1,870 ft.; S.D. 1,920 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossier, E. Hughhart Sur. ..... Drlg. 2,050 ft.
Shad Harper's No. 1 W. R. Garland, J. Wagley Sur. ..... S.D. 1,862 ft.
Johnson Pet Co.'s No. 2 Randolph, Edward Dean Sur... S.D. 2,000 ft.

SHELBY COUNTY

Benedum & Trees Oil Co.'s No. 1 Pickering Lbr. Co., 300 ft. S, 300 ft. W, NE cor. Lot 20, D.T.F. Yordt Sur... Drlg. shale 2,410 ft.
Chapperall Oil Co.'s No. 2 Holt, Matthew Moore Sur... S.D. for orders 3,004 ft.
Gulf Ref. Co.'s No. 2 Pickering, 463 ft. S, 29 ft. W, SW cor. P. W. Harvey Sur. in J. H. Patterson Sur. ..... Began drlg. Oct. 9; cmtd. 12½-in. 166 ft; drlg. rock 804 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Drlg. 2,700 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20 13-3 ..... Quicksand 1,240 ft.

HINDS COUNTY

Harry Gerson's No. 1 Edward House, Blk. 16, West Jackson Subd., City of Jackson, in Twp. 5n, Range 1e .... Rig up.
Oscar Brown's No. 1 Riverside (formerly Hennessee et als') SE cor. SE SW, Sec. 23-16-5 ..... Set 12½-in. 30 ft; S.D. 1,050 ft.
Mrs. Reeder et als' No. 1 State, SE cor. NW NW, Sec. 25-6-1e ..... S.D. 2,895 ft.
South Christian Institute's No. 1 fee, SE SW, Sec. 29-6-4. Waiting on csg. to set; T.D. 1,203 ft.

HUMPHREYS COUNTY

E. C. Steele et als' No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w ..... Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16 ..... Cored sand, shale and gumbo 2,494-2,500 ft.; S.D. 2,786 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18 .... S.D., gumbo 2,410 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-6-14 ..... Derrick.

LAFAYETTE COUNTY

Banks-Goode et als' No. 1 May, 113½ rods S, 26 rods E, NW cor. SW, Sec. 22-10-1w ..... Derrick.

LINCOLN COUNTY

La.-Miss. Oil Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6 ... Spudded Feb. 17, 1929; S.D. 50 ft.; resumed drlg. Aug. 12; cmtd. 12½-in. 368 ft.; S.D., salt water sand 1,213 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D.; waiting for 5 3/16-in. csg. 2,580 ft.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19 ..... Fish. for liner and tools 3,045 ft.
Park Bowser et als' No. 1 Cowart, second hole, Sec. 2-12-19 ..... S.D. 30 ft.

RANKIN COUNTY

Home Oil Prod. Co.'s No. 1 E. P. Rainey, NW NW, Sec. 13-5-1e ..... Drlg. sand rock 1,860 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-5 ..... Drlg. 2,400 ft.

YALOBUSHA COUNTY

Philip Bros.' No. 1 James, Sec. 20-11-5 ..... Drlg. dark slate, streaks of sand 3,252 ft.
Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, C, Sec. 14-11-4 ..... Location.

TENNESSEE

DECATUR COUNTY

Standard Oil Co. of La.'s No. 1 Wyatt ..... Drlg 1,285 ft.
Chester County Oil Co.'s No. 1 Montgomery ..... Cmtd. 6-in. 1,040 ft.; drlg. hard gray lime 1,165 ft.

ALABAMA

CHOCTAW COUNTY

Robinson & Greeer's No. 1 Douglas Oil Co., 320 ft. N, C, Sec. 15-19-2 ..... Coring 3,400 ft.

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14 ..... Reaming to bottom; T.D. 1,180 ft.

SUMTER COUNTY

B. W. Bates' No. 1 fee, Sec. 3-18-1 ..... U.R. surface csg. at 300 ft.; to set 6-in

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2 ..... S.D; S.W. flow at 1,450 ft., T.D.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1 ..... S.D. 700 ft.

SHELL CHAIRMAN'S VISIT

NEW YORK, Oct. 19. — Viscount Bearsted, chairman of the Shell Trading & Transport Co., and a director of the Shell Union Corp., is visiting the United States, accompanied by Lady Bearsted. Inspecfion of the Shell Union properties in California and Texas is the primary purpose of Viscount Bearsted's visit, but it is believed he will take the opportunity of conferring with American oil executives on the general problem of oil curtailment and to watch the operation of the California plan.

Pays for itself in time saved . . .

VEZ

. . breaks emulsions and recovers the oil

When you rely upon VEZ you know in advance what results you can get . . . instead of general assurances we give specific guarantees.

Successful, economical treating depends on the proper formulas. VEZ standards are established through long experience, adequate manufacturing facilities and a wide knowledge gained through the large number of treating plant installations throughout the oil fields . . .

The Vez Company
Manufacturing Chemists
2221-3 Laws Street
Dallas, Texas

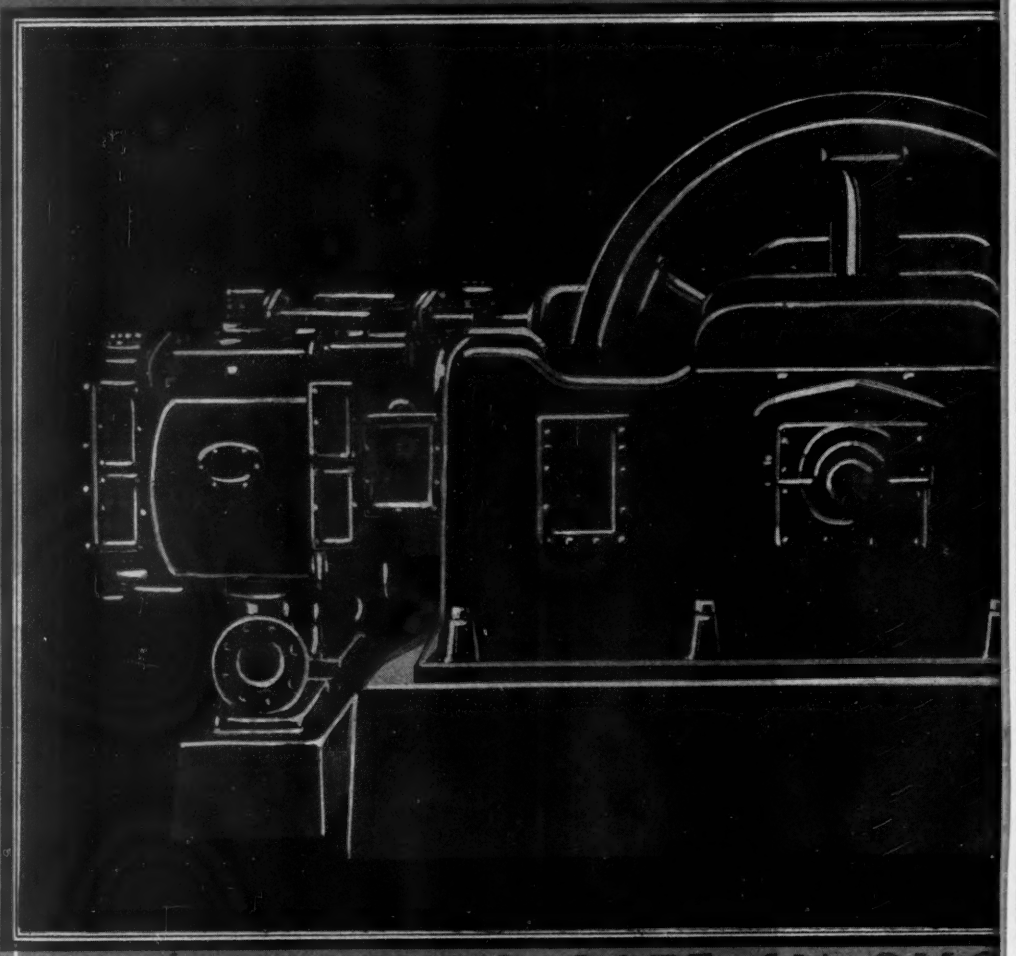
"Ask the Man Who Uses It"

Bristow, Oklahoma
Wewoka, Oklahoma
Wichita, Kansas
Tullos, Louisiana
Wichita Falls, Texas
Borger, Texas
Luling, Texas
Big Spring, Texas
Wink, Texas
Pampa, Texas
Benavides, Texas
El Dorado, Arkansas
Seal Beach, California

COOPER-BESSEMER

JOE TURNER — *the Operator,* says the new Cooper-Bessemer Type-10 is easy to keep on the load.

SAM HARRISON — *the Superintendent,* says the new Cooper-Bessemer Type-10 helps him set new plant records.



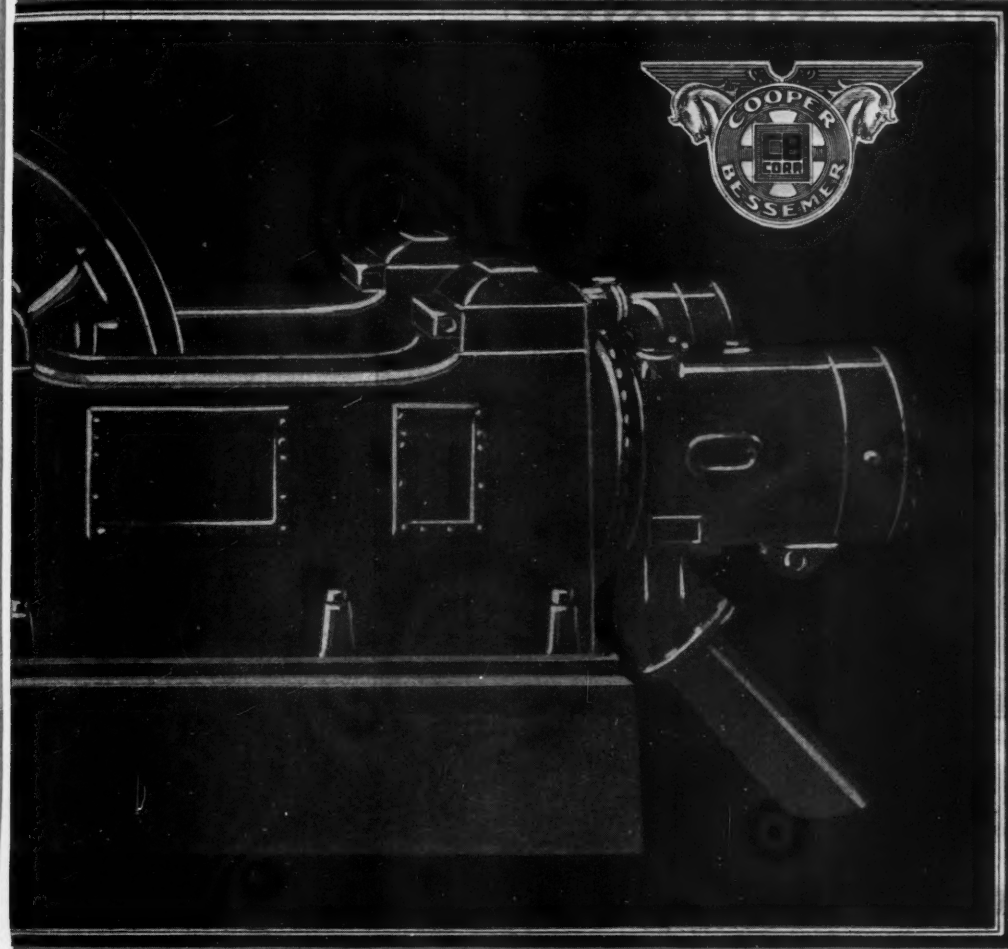
YOU'RE ALWAYS SAFE IN CHO

ALTHOUGH there are many installations of Cooper-Bessemer Type-10 gas engine compressors giving faithful service, field study showed that certain changes would make it an outstanding engine in its class.

Cooper-Bessemer engineers and laboratory experts started by re-designing such important parts as the main frame, power cylinder and piston. To accomplish some of the desired results special materials were used which had more strength and greater heat resisting ability. An engine was finally announced in which power cylinder difficulties are practically eliminated, power is increased, vibration is reduced and general appearance is improved.

Some of the changes which are responsible for these improvements of Cooper-Bessemer Type-10 are: a one piece bed, a full water jacket from cylinder end to end, and improved water circulation; increased

Engineers Improve TYPE 10



OSING A COOPER-BESSEMER.

FRED GREY—*the Manager*, says the new Cooper-Bessemer Type-10 lowers operating costs.

BILL MERCER—like the other *Stockholders*, says the new Cooper-Bessemer Type-10 means more yearly profits.

exhaust and inlet port capacity and wider bridges; greater scavenging valve capacity; improved type piston and cylinder head; and better lubrication for exhaust bridges.

Two-cycle design gives the Cooper-Bessemer Type-10 engine construction and operating simplicity as well as low investment cost; equipped with the gas economizer it has fuel economy comparable to a four-cycle engine; these improvements added; make it outstanding in its class of gas engine compressors.

If you would like to have detailed information about the new Cooper-Bessemer Type 10, one of our representatives will be glad to call. Let us know when you are ready.

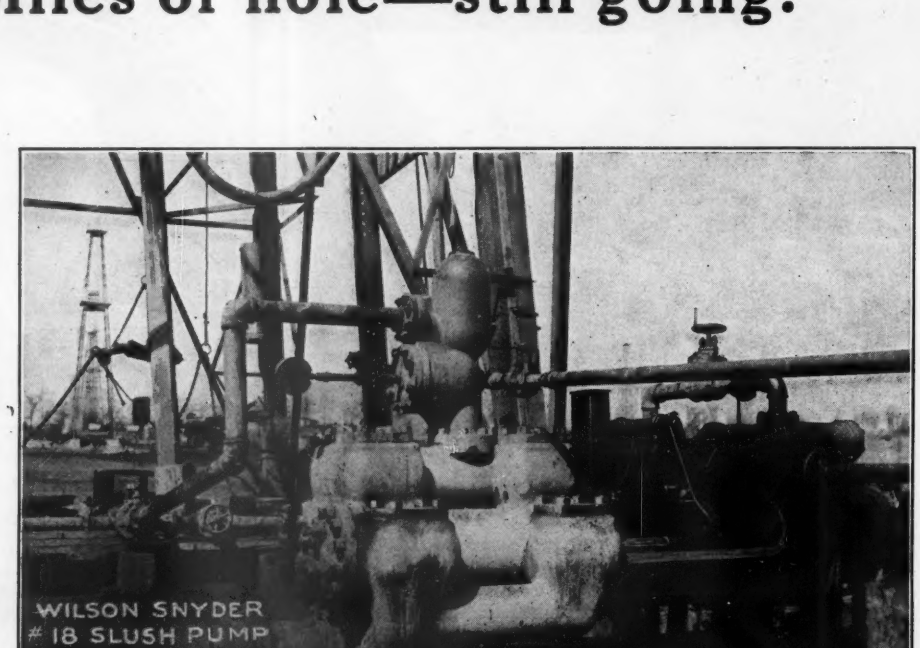
THE COOPER-BESSEMER CORPORATION

Formerly The C. & G. Cooper Company and The Bessemer Gas Engine Company

Mount Vernon, Ohio Grove City, Pa.

Branch offices in all principal oil and gas fields

Nearly three years of drilling
Miles of hole—still going!



The first No. 18
the Original
Long Stroke
Slush Pump
continues in operation

The pump that pays in the long run.

WILSON-SNYDER
BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS
PITTSBURGH, PA U.S.A.

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless otherwise marked)

(Continued from Page 50)

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Drlg. 5,324 ft.

HASKELL COUNTY

Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,200 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e.. Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Rig.
Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 .... Shut down 1,200 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Rig on ground.
McCullough Oil Co.'s No. 1 Scott, NW NE Sec 23-6-8 .... Drlg. 3,275 ft.
Whitney et al's No. 1 Moore, SE SW Sec. 17-5-9 ..... Fishing 3,936 ft.

JACKSON COUNTY

Altus Oil Co.'s No. 1 Northington, NE cor. NE Sec. 4-1-20w ..... Shut down 2,020 ft.

KINGFISHER COUNTY

Superior Oil Co.'s No. 1 Story, SE cor. Sec. 25-19-5w .... Fishing 6,285 ft.
Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

KIOWA COUNTY

Hyde et al's No. 1 Jones, SE cor. Sec. 23-3-18w-50 ..... Shut down 490 ft.
Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w .. Shut down 1,035 ft.
McWharter and others' No. 1 Sherwood, CWL NW NE Sec. 2-5-17w ..... Abandoned 1,308 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24 .. 5,000,000 ft. gas showing 5,005 ft.

LATTIMER COUNTY

Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Shut down 1,450 ft.
Limestone Oil & Gas Co.'s No. 1 McMurray, SW cor. SW Sec. 15-5-18 ..... Total depth 4,010 ft.; cleaning out.

LINCOLN COUNTY

Morgan & Flynn's No. 1 Johnson, SW NE Sec. 1-16-5 .... Underreaming 12-in. csg. 1,000 ft.
Phillips Pet. Co.'s No. 1 Stephens, SE cor. NW Sec. 29-12-3 ..... Drlg. 4,510 ft.

LOGAN COUNTY

Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w .. Shut down 3,970 ft.

McINTOSH COUNTY

Jennings Bros.' No. 1 Crabtree, NW SW NE Sec. 31-10-14 ..... Rig.
Spring Valley Oil Co.'s No. 1 Carr, SE cor. NE NW Sec. 16-10-13e ..... Shut down 2,508 ft.
Patterson and others' No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MAJOR COUNTY

Earl and others' No. 1 Turner, C NE NE Sec. 23-20-14w.. Rig.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .... Shut down 1,011 ft.
Cooper-Badget's No. 1 Young, NW NE NE Sec. 7-12-20e.. Shut down 50 ft.

NOBLE COUNTY

Peerless et al's No. 1 Wentz, NW SW Sec. 22-22-1 .... Drlg. 1,490 ft.
Gypsy Oil Co.'s No. 1 Bailey, C NE NE Sec. 24-22-1e .. Drlg. 4,930 ft.
Magnolia Petroleum's No. 1 King, C SE SW Sec. 26-20-1w. Drlg. 5,040 ft.

OSAGE COUNTY

Peters and Producers & Refiners' No. 1, SE cor. Sec. 19-26-7 ..... Drlg. 3,020 ft.
White Eagle's No. 1, SW SE NE Sec. 23-26-7 ..... Abandoned 3,095 ft.
Oliphant et al's No. 1, NE cor. Sec. 13-24-6 ..... Drlg. 2,682 ft.

OKFUSKEE COUNTY

Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Fishing 1,740 ft.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10 .. Drlg. 3,085 ft.
Superior and others' No. 1 Carolina, SE cor. Sec. 6-11-7e ..... Rigging up standard tools 4,805 ft.

OKLAHOMA COUNTY

Ryan & Martin's No. 1 Lawton, NE NW Sec. 3-11-2w .. Rig.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... Drlg. 5,640 ft.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Shut down 4,750 ft.

PITTSBURG COUNTY

Galbreath's No. 1 Snyder, C W half SW Sec. 28-4-13 .... Shut down 100 ft.
Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ..... Drlg. 2,490 ft.
Kerr & Koy's No. 1 Hall, C NW NW Sec. 32-4-12 ..... Drlg. out cement 2,580 ft.

PONTOTOC COUNTY

Indian Territory Illuminating Oil Co.'s No. 1 McFarland, NW cor. Sec. 4-5-5 ..... Drlg. 2,532 ft.
Indian Territory Illuminating Oil Co.'s No. 1 Shoate, C NE SE Sec. 1-4-4 ..... Abandoned.
Independent and Shaffer's No. 1 Moses, NE SE SW Sec. 10-5-4 ..... Drlg. 2,985 ft.

POTTAWATOMIE COUNTY

Tippa Drlg. Co.'s No. 1 Pittman, SW NW Sec. 3-8-4 .... Drlg. 2,700 ft.
Twin State's No. 1 Ray, NW SW Sec. 3-8-4 ..... Rig on ground.
Prairie O. & G. Co.'s No. 1 Bodkin, SW cor. Sec. 26-8-4 .. Drlg. 1,840 ft.
Empire O. & R. Co.'s No. 1 McKown, SW NW Sec. 25-8-4 ..... Drlg. 4,050 ft.
Keister & Manning's No. 1 Tibbs, NE SW Sec. 9-8-4 .... Drlg. 4,234 ft.
Amerada's No. 1 Vineyard, NW NE NE Sec. 15-7-3 .... Drlg. 4,972 ft.
Gypsy Oil Co.'s No. 1 Randolph, NW NE Sec. 23-6-4 .... Drlg. 3,185 ft.
Shaffer and Margay's No. 1 Murphy, NW NE Sec. 11-6-3 ..... Abandoned 4,632 ft.; lost hole.
Cal-Cul Oil Co.'s No. 1 McKnight, NW cor. NE NW Sec. 9-8-3 ..... Drlg. 5,105 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w .. Rig.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w .... Shut down 1,800 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 25-5-5 .... Location.
Prairie & Slick's No. 1 Bettsey, NW SW Sec. 36-6-6 .... Rigging up standard tools 3,595 ft.
Harris' No. 1 Harjoche, SE NE SE Sec. 8-6-6 ..... Rigging up standard tools 3,830 ft.
Prairie's No. 1 Mingo, NW NE Sec. 25-6-6 ..... Drlg. 2,908 ft.

SEQUOYAH COUNTY

Hunt and others' No. 1 Unknown, SE cor. NW SW Sec. 12-12-22 ..... Shut down 1,260 ft.
Buffington and others' No. 1 Melcher, C SW NW Sec. 31-12-24 ..... Shut down 3,000 ft.

WOODS COUNTY

Peerless O. & G. et al's No. 1 Cromwell, SW SE Sec. 14-28-16w ..... Shut down 1,500 ft.
S. K. Miller's No. 1 Copenhavers, NW cor. NW Sec. 18-24-13w ..... Rigged up and shut down.
Gypsy-Prairie and others' No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Drlg. 5,920 ft.
Sinclair Oil & Gas Co.'s No. 1 Steward, C SW SW Sec. 33-27-16w ..... Fishing 5,320 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-23-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas and others' No. 1 Wilber, NE cor. NW Sec. 23-23-17w ..... Drlg. 5,460 ft.
Billy's Oil Co.'s No. 1 Watt, C SE Sec. 9-23-20w ..... Drlg. 4,630 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

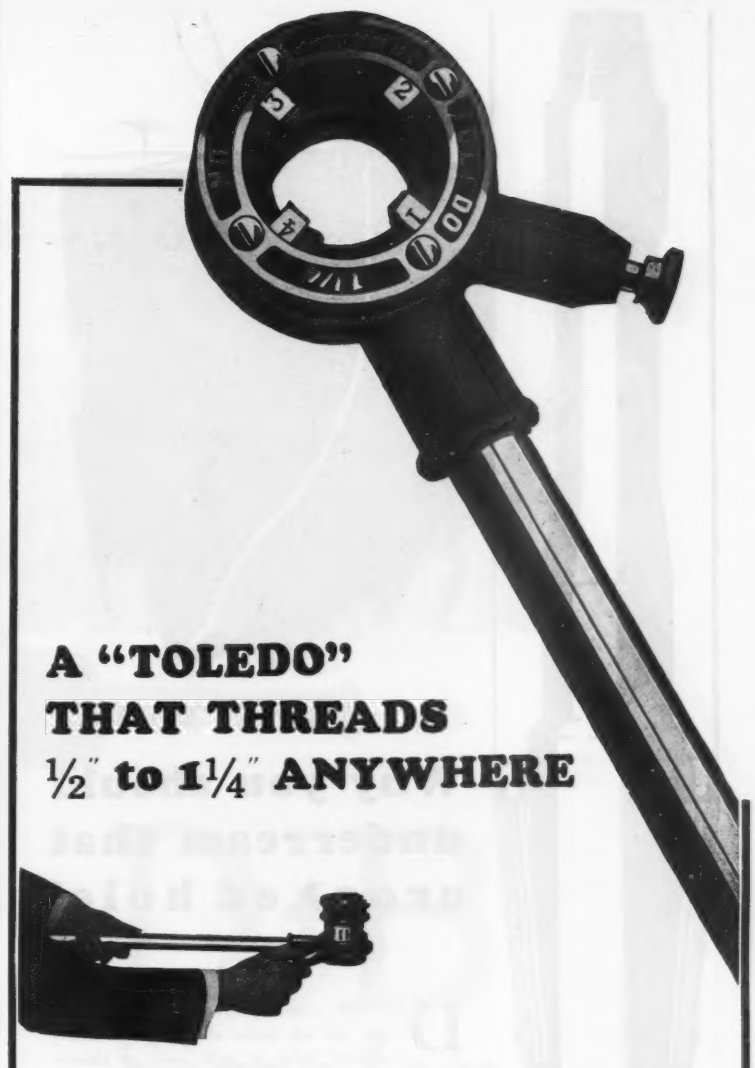
SOUTHERN OKLAHOMA

BRYAN COUNTY

Marshall's No. 2 fee, C SW SE NW Sec. 26-8s-7 ..... Shut down 265 ft.
Stanley-Munday's No. 1 Club Lake, NE NW NW Sec. 31-6s-10e ..... Shut down 660 ft.
Yale Oil Syndicate's No. 1 Craige, C NW NE Sec. 36-9s-9e ..... Shut down 1,816 ft.

CARTER COUNTY

Avon-Dickey's No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 420 ft.



A "TOLEDO" THAT THREADS ½" to 1¼" ANYWHERE

Just a few easy strokes of the ratchet handle and a "TOLEDO" No. 11 threads ½" to 1¼" pipe anywhere the pipe happens to be. This light, compact threading tool is the tool to use on small pipe in the oil fields.

A snap of the ratchet pawl and die heads are instantly changed from one size to another, not a lost moment.

The dies cut easily and produce smooth, perfectly tapered standard threads that assure tight joints.

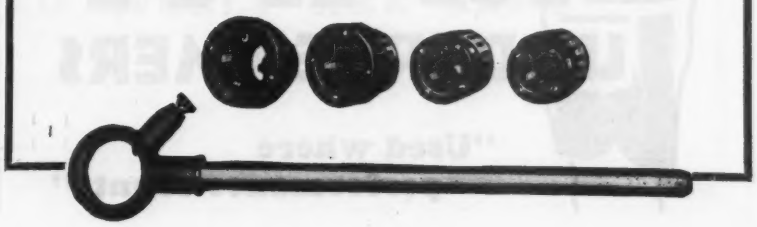
"TOLEDO" No. 11 is only one of the complete "TOLEDO" line of Pipe Tools from ⅛" to 12". A post card brings you the complete "TOLEDO" catalog.

YOU CAN DEPEND ON THE GENUINE

"TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO

NEW YORK OFFICE: 72 LAFAYETTE ST.



Why you should underream that crooked hole!

DESPITE the improvement in drilling bits, we all know that the absolutely vertical hole is still only a theory. In other words, operators must deal in a majority of cases with holes off line and the big problem of the crooked hole is to get the casing on bottom and a good thick cement job. Holes 650 and more feet out of line have been underreamed with the Grant Underreamer so that the casing goes in "like 2 inch into 10 inch." The chances for stuck casing are eliminated and a water-tight cement job assured.

Grant Oil Tool Co.
2042-44 East Vernon Avenue
LOS ANGELES, CALIFORNIA
U. S. A.

DISTRIBUTORS

OIL WELL SUPPLY COMPANY
THE NATIONAL SUPPLY COMPANIES
CONTINENTAL SUPPLY COMPANY
THE REPUBLIC SUPPLY CO. OF CALIF.
LUCEY PRODUCTS CORPORATION

GRANT UNDERREAMERS

"Used where performance counts"

CHOCTAW COUNTY
Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6-19e ..... Shut down 1,346 ft.

COTTON COUNTY
Wirt Franklin's No. 1 Bandy, NW cor. Sec. 4-4s-10w .... Spudding.

JEFFERSON COUNTY
Danciger et al's No. 1 Dilley, SE NW Sec. 11-5s-7w .... Rigging up to drill deeper.
Gypsy Oil Co.'s No. 1 Smith, C SW SE SE Sec. 2-7s-7w .. Drlg. 3,170 ft.

JOHNSTON COUNTY
Smith & Knisely's No. 1 Lane, E half Sec. 29-1s-7 ..... Shut down 2,254 ft.

McCURTAIN COUNTY
Utopia Pet. Co.'s No. 1 Unknown, SE NW Sec. 14-9s-25 .. Location.
Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 1,490 ft.

MARSHALL COUNTY
Westheimer & Daube's No. 1 Monsenberg, SE SW Sec. 26-7s-5 ..... T. D. 1,146 ft.; P. B. 373 ft. 2,000,000 ft. gas.

STEPHENS COUNTY
Smythe et al's No. 1 Johnson, NE cor. Sec. 30-2-8w .... Location.
Pandem Oil Co.'s No. 1 Harber, C SE SE Sec. 34-2-9w .... Drlg. 900 ft.
Pace et al's No. 1 Voss, C SE NW SW Sec. 23-2s-7w .... Drlg. 1,832 ft.
Pace et al's No. 1 Horton, C SE SW SE Sec. 26-2s-7w .... Drlg. 1,779 ft.
Pace et al's No. 1 Butler, C NW NW SW Sec. 35-2s-7w .. Drlg. 1,888 ft.
Porter & Monahan's No. 1 Robberson, SE NW Sec. 23-3s-4w ..... Drlg. 3,030 ft.

TILLMAN COUNTY
Nance et al's No. 1 Massie, NE NW Sec. 36-1S-6w ..... Location.
Landfair and others' No. 1 Smith, SE SW SE Sec. 6-2s-16w ..... Shut down 2,535 ft.

OKLAHOMA PANHANDLE
Skaer's No. 1 Hitch, NW cor. Sec. 25-1-15e ..... Shut down 250 ft.

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless otherwise marked)

(Continued from Page 52)

FORD COUNTY
McNabb et al's No. 1 Unknown, C SE Sec. 26-27-22w .. Rig.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w .... Shut down 300 ft.

GRAHAM COUNTY
Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w ..... Shut down 4,165 ft.

GREENWOOD COUNTY
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Shut down 50 ft.
T. K. Simmons' No. 1 Steele, SE NE Sec. 22-22-12 ..... Rig.

HARPER COUNTY
Boeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down.
Tom Slick Oil Co.'s No. 1 Miller, SE cor. Sec. 13-34-8w ..... Drlg. 5,146 ft.
Tom Slick Oil Co.'s No. 1 Thompson, NW cor. Sec. 19-32-6w ..... Viola 4,936-50 ft.; show oil, testing.
Independent & Reserve Oil Co.'s No. 1 Moulds, C NE Sec. 7-24-1w ..... Drlg. 2,650 ft.

HARVEY COUNTY
Liggett et al's No. 1 Regler, C SE NW SE Sec. 2-23-3w.. Shut down 2,365 ft.
E. W. Marland, Inc.'s No. 1 Chambers, C NE SE NE Sec. 8-24-2 ..... Rig.
Deering-Marshall's No. 1 Dick, Sec. 4-25-2w ..... Drlg. 3,885 ft.
McCulloch et al's No. 1 Prouty, NW cor. SW Sec. 3-23-1w ..... Drlg. 2,480 ft.
Mrs. Gay et al's No. 1 Grove, C NW NE NW Sec. 29-23-1w ..... Shut down 3,295 ft.
Jolly & Ogg's No. 1 Randall, NE cor. NE Sec. 11-24-1w... Shut down 3,444 ft.
Jolly & Ogg's No. 1 Hupp, SE cor. NE Sec. 22-23-1w .... Shut down 3,220 ft.
Walton Oil Co.'s No. 1 Neiman, C SE SW Sec. 13-14-2 .... Drlg. 1,725 ft.

HODGEMAN COUNTY
Phillips Pet.'s No. 1 Hausman, NW NE Sec. 30-22-22w.. Drlg. 3,880 ft.

JEFFERSON COUNTY
Wichita Oil Co.'s No. 1 Simpson, NW cor. SW SW Sec. 19-10-17 ..... Rigged up and shut down.

KIOWA COUNTY
British-American's No. 1 Woodward, NE cor. Sec. 35-27-17w ..... Wilcox sand 5,037-40 ft.; hole full water; abandoned.

KINGMAN COUNTY
D. P. Fleeger's No. 1 Ashcraft, SE SW NE Sec. 16-28-7w ..... Drlg. 1,905 ft.
White Eagle's No. 1 Lorenz, C NE SW SE Sec. 25-27-5w.. Drlg. 2,800 ft.

LANE COUNTY
Robinson's No. 1 Dickerson, Sec. 11-18-27w ..... 8-in. csg. 2,625 ft.
Blankenship Pet. Co.'s No. 1 Schaeffer, NE cor. NE Sec. 24-16-28w ..... Spudded and shut down.

LYON COUNTY
Harry Mortlock's No. 1 Diebolt, NW NE Sec. 24-20-1 .... Machine.
Sheedy et al's No. 1 Welch, NE cor. Sec. 30-20-10 ..... Drlg. 2,437 ft.

MARION COUNTY
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5 .... Rig.
White Eagle's No. 1 Ucker, NE NW Sec. 24-17-2 ..... Rig on ground.
American O. & R. Co.'s No. 1 Urie, NW SW NW Sec. 10-17-3 ..... Drlg. 2,525 ft.
Empire's No. 1 Reising, NE NW NW Sec. 34-20-2 ..... Drlg. 2,385 ft.

McPHERSON COUNTY
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w.. Location.
Howard & Travers' No. 1 Cornelius, SW cor. Sec. 7-21-4 .. Drlg. 600 ft.
Kansas Oil Co.'s No. 1 Otto, SW NW Sec. 21-20-1w .... Spudding.
Reynolds et al's No. 1 Koohn, NE SE NE Sec. 15-20-2w .. Rig.
McPherson O. & G. Co.'s No. 1 Fisk, SW NE NE Sec. 15-21-2w ..... Drlg. 2,195 ft.
McPherson O. & G. Co.'s No. 1 Sorenson, C SE Sec. 23-18-2w ..... Drlg. 2,035 ft.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Rig.
Lario et al's No. 1 Diener, SE SW Sec. 10-20-1w ..... Drlg. 2,850 ft.
Perry et al's No. 1 Wade, C SE Sec. 20-19-4w ..... Shut down 2,910 ft.
Slick, Pryor & Lockhart's No. 1 Gratton, C NE NW NW Sec. 34-20-3w ..... Drlg. 2,895 ft.
Helmerich & Payne's No. 1 Klassen, SE NE NE Sec. 14-21-1w ..... Shut down 3,300 ft.
McPherson Gas Co.'s No. 1 Chinberg, NW cor. Sec. 18-19-2w ..... Total depth 3,585 ft.; plugging back to 2,992-3,045 ft.
McPherson O. & G. Co.'s No. 1 Rasmusson, SW cor. Sec. 8-18-3w ..... Drlg. 3,440 ft.
Transcontinental Oil Co.'s No. 1 Algers, NE SW Sec. 1-19-5w ..... Drlg. 3,150 ft.

MORRIS COUNTY
Arrow O. & G. Co.'s No. 1 Kinkle, C NW NE Sec. 8-16-7.. Rig on ground.

MORTON COUNTY
White & Chaney's No. 1 Love, NE cor. Sec. 11-4-24 .... Rig on ground.
Richards et al's No. 1 Colby, C SW Sec. 17-4-21w .... Location.

NESS COUNTY
E. W. Marland, Inc.'s No. 1 Moses, NE SE Sec. 7-18-25w.. Drlg. 4,016 ft.

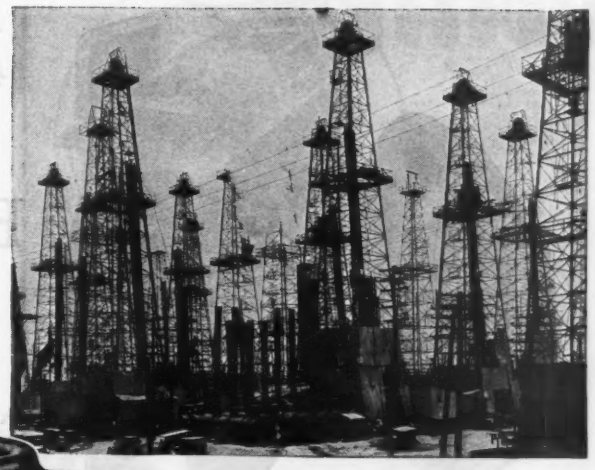
OSBORNE COUNTY
Phillips Pet. Co.'s No. 1 Greive, NW SE NE Sec. 6-7-12w.. Drlg. 3,472 ft.
Mid-Kansas' No. 1 Boyce, SE cor. NW Sec. 18-6-13w .... Drlg. 3,320 ft.

PAWNEE COUNTY
F. C. Troupe's No. 1 Lovett, CEL NE NE Sec. 31-21-16w.. Shut down 1,560 ft.

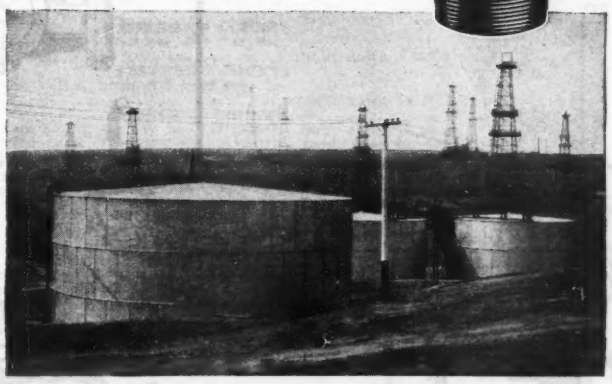
PRATT COUNTY
O'Haver & Jones' No. 1 Garacke, C NE SW Sec. 7-26-14w ..... Drlg. 605 ft.
O'Haver & Jones' No. 1 Lunt, C SW NW Sec. 15-28-14w .. Drlg. 4,520 ft.
Wilcox O. & G. Co.'s No. 1 Unknown, SW NW Sec. 7-26-15w ..... Drlg. 230 ft.

RENO COUNTY
Empire O. & R. Co.'s No. 1 Blitz, NE NW Sec. 36-25-4w ..... Drlg. 1,690 ft.

Sends the oil where it belongs



D+B *Simplex Stuffing Box*



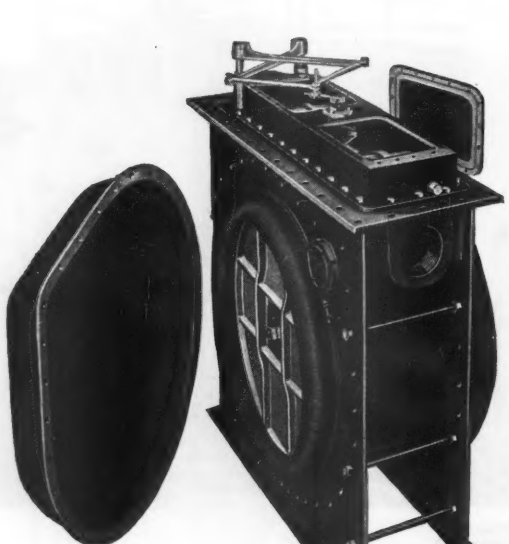
Proper polish rod lubrication is insured, as the large bowl in the top of the stuffing box carries enough oil to prevent the stuffing from burning-out while the oil may be coming to the top or between heads of oil.

The D+B Stuffing Box is extremely simple. It has a minimum number of parts...is easily attached by the patented drop handles which are out of the way when not needed, but instantly available to tighten or loosen the pressure, without a wrench. The handles are so attached as not to work loose or get lost. Uses any standard packing and has standard threads. *Full details upon request.*

EMSCO D+B
Protected by Steel
EQUIPMENT
LOS ANGELES, CALIFORNIA
HOUSTON, TEXAS; DALLAS, TEXAS
EXPORT OFFICE: 120 BROADWAY NEW YORK CITY, N.Y.
U.S.A.

All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE



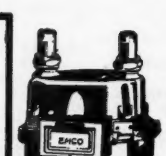
Inside the EMCO *Five*

The pressed steel meter that revolutionized large capacity gas measurement

TEN thousand cubic feet per hour measured with a pressure drop of less than two inches of water, has been made possible by the pressed steel case construction, tested at a pressure of 100 pounds per square inch. Diaphragms are of sheepskin, formed and seasoned carefully, mounted on terne iron pans, which are reinforced to maintain absolute rigidity.

The tangent adjustment is a new and exclusive feature. The flag rod and movement have been designed by our engineers to eliminate any chance of giving trouble. The EMCO exclusive valve arrangement, whereby valves are set in line with each other, includes valves and valve seats of special white metal alloys worked out in our own laboratories.

EMCO—*Wherever you go*



EMCO #0 CAST IRON DRY GAS METER

IRONCLAD CAST IRON DRY GAS METER

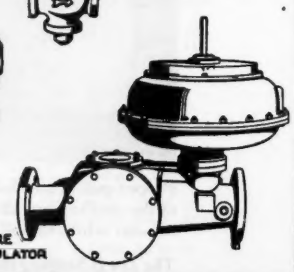
EMCO #0 CAST IRON CURB BOX METER

EMCO TIN METER

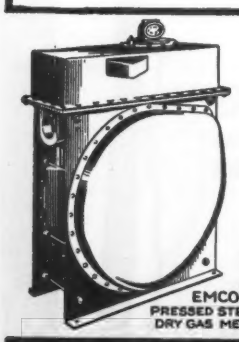
EMCO HIGH PRESSURE BALANCED VALVE REGULATOR

EMCO WATER HEATER AND GAS APPLIANCE REGULATOR

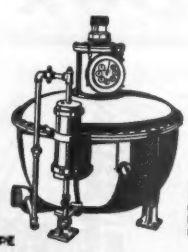
EMCO DOMESTIC SERVICE REGULATOR



EMCO LOW PRESSURE BALANCED VALVE REGULATOR



EMCO #5 PRESSED STEEL TYPE DRY GAS METER



WESTINGHOUSE FLUID POSITIVE GAS METER

EMCO LARGE CAPACITY CAST CASE DRY GAS METER WITH EMCO COMBINED RECORD GAUGE

EMCO ORIFICE GAS METER

PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

NEW YORK CHICAGO COLUMBIA, S.C. LOS ANGELES DALLAS
TULSA SEATTLE KANSAS CITY SALT LAKE CITY

Kaiser & Murphy's No. 1 Friessen, SE cor. NE Sec. 6-22-4e ..... Location.
Wilson et al's No. 1 McPhaeters, C S half NW Sec. 22-26-8w ..... Drlg. 1,140 ft.
Witt's No. 1 Olsen, C SE NW Sec. 14-22-6w ..... Drlg. 455 ft.
Skelly Oil Co.'s No. 1 Birkett, NE SW Sec. 30-24-7w .... Underreaming 6-in. csg. 3,650 ft.
Milmac Oil Co.'s No. 1 Strickley, SW cor. NW Sur. 17-26-5w ..... Drlg. 3,855 ft.

RICE COUNTY

Boucher's No. 1 Bieg, Sec. 16-21-10w ..... Rig.
Miller & Detrick's No. 1 Shumway, C SW Sec. 2-20-9w .. Drlg. 2,665 ft.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w ..... Rig.
Derby Oil Co.'s No. 1 Johnson, C NW NE SE Sec. 24-20-6w ..... Fishing 2,300 ft.
Milmac's No. 1 Cain, C SE Sec. 29-19-7w ..... Drlg. 2,735 ft.
Allison & Fitzwilliams' No. 1 Poland, NE cor. SW NE Sec. 36-19-8w ..... Cellar.
Higgins & Steinbuchel's No. 1 Shurr, NE cor. SW Sec. 21-20-10w ..... Swabbing 3,278-84 ft.; 197 bbls.
Curtis et al's No. 1 Green, C NW Sec. 33-19-6w ..... Location.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w ..... Location.
Langston et al's No. 1 Shumway, C SW Sec. 2-20-9w ..... Location.
McCullough et al's No. 1 Williams, C NE Sec. 35-20-8w .. Rig.

RILEY COUNTY

Arkansas Fuel Oil Co.'s No. 1 Martin, SE NE SW Sec. 24-8-4 ..... Spudding.
Grey et al's No. 1 Smith, NE SE Sec. 30-6-6 ..... Shut down 1,970 ft.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e .. Fishing 2,246 ft.

RUSSELL COUNTY

Cress & Hacke's No. 1 Unknown, SE cor. Sec. 6-13-12w .. Rig on ground.
Midwest Exploration's No. 1 Benson, SW cor. Sec. 4-14-15w ..... Drlg. 595 ft.
Prairie Oil & Gas Co.'s No. 1 Brungardt, C NW SE NW Sec. 31-12-15w ..... Drlg. 2,175 ft.
Empire and Prairie's No. 1 Bocks, C SE NE NE Sec. 23-15-14w ..... Testing 3,364-66 ft.; show oil.

ROOKS COUNTY

Kruger et al's No. 1 Stels, NW SE SW Sec. 12-9-16w .... Shut down 50 ft.
Central Commercial's No. 1 Baxa, Sec. 22-9-17w ..... Drlg. 1,412 ft.

RUSH COUNTY

Milmac's No. 1 Mohr, C NW Sec. 11-18-16w ..... Shut down 560 ft.
Central Commercial Oil Co.'s No. 1 Brock, SE cor. SW SW Sec. 12-17-16w ..... Shut down 50 ft.
Danciger Oil Ref. Co.'s No. 1 Pivonka, NE cor. SW NE Sec. 17-19-17w ..... Drlg. 3,937 ft.

SALINE COUNTY

Dixie Oil Co.'s No. 1 Thorstenburg, NW NE Sec. 10-16-3w ..... Drlg. 2,960 ft.
Austin et al's No. 1 Olsen, NW SW SE Sec. 10-15-4w .... Drlg. 2,675 ft.
Templeman's No. 1 Lanbengager, C SW Sec. 20-15-5w .. Drlg. 3,000 ft.
Twin Mounds' No. 1 Weis, NW NE NW Sec. 20-13-4w ..... Drlg. 700 ft.

SEDGWICK COUNTY

Moore's No. 1 Stewart, C NE SE NW Sec. 18-28-1w .... Rig.
Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w ..... Rig.
Wentz Oil Corp.'s No. 1 Allison, NE NW Sec. 24-26-2 .... Drlg 1,220 ft.
Plains Oil Co.'s No. 1 Curry, SE SW SW Sec. 2-27-1w .... Sand 3,389 ft.; hole full oil; testing.
Wilson et al's No. 1 Ottaway, SW NW Sec. 16-28-2w .... Rig.
C. B. Davis' No. 1 Kinkead, NE cor. Sec. 14-27-1 ..... Drlg. 3,330 ft.
Marland and Amerada's No. 1 Sensorth, NW cor. Sec. 25-28-4w ..... Drlg. 3,410 ft.
Boyle's No. 1 Sandusky, NW NE SE Sec. 34-26-1w ..... Drlg. 3,107 ft.
Barnett O. & G. Co.'s No. 1 Davidson, NW cor. NW SW Sec. 27-26-1e ..... Shut down 3,007 ft.
Kellar & Lewis' No. 1 Buckles, NW cor. SE Sec. 3-28-1w .. Fishing 975 ft.
Washabaugh et al's No. 1 Harrison, NW cor. NE NE Sec. 3-26-2w ..... Drlg. 3,662 ft.
LaFont et al's No. 1 Carlton, C SE SE SW Sec. 24-28-1e .. Shut down 1,685 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Unknown, NW NE Sec. 28-10-15 ..... Rig.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14 .... Shut down 750 ft.
Omar O. & G. Co.'s No. 1 Allen, SE NE NW Sec. 2-11-14 ..... Viola 2,473-77 ft.; hole full water; abandoned.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w ..... Spudded; shut down.

SHERMAN COUNTY

A. L. Henson et al's No. 1 Murry, NE cor. SE NW Sec. 22-7-40w ..... Shut down 3,035 ft.

STAFFORD COUNTY

Phillips Petroleum's No. 1 Houghton, SW cor. Sec. 20-21-12w ..... Shut down 50 ft.

STEVENS COUNTY

McKenna's No. 1 Unknown, C NW NW Sec. 29-33-36w .. Shut down 50 ft.
Trees Oil Co.'s No. 1 Thompson, C NE SW Sec. 3-35-38w .. Drlg. 1,600 ft.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w ..... Drlg. 1,600 ft.

SMITH COUNTY

Phillips Pet.'s No. 1 Clydesdale, SE NW Sec. 23-5-14w .. Drlg. 2,940 ft.

SUMNER COUNTY

Kingwood Oil Co.'s No. 1 Stayton, C NE Sec. 18-31-2w .. Drlg. 1,150 ft.
Slick et al's No. 1 Peasel, NW cor. Sec. 33-31-1w ..... Drlg. 1,330 ft.
Lario O. & G. Co.'s No. 1 Osborne, NE SE Sec. 21-30-1w ..... Drlg. 2,150 ft.
E. K. Carey & Larado Oil Co.'s No. 1 Welsch, SW SE Sec. 9-34-1e ..... Drlg. 2,570 ft.
Mid-Continent Pet. Corp.'s No. 1 Clark, SE cor. Sec. 31-34-3w ..... Drlg. 4,670 ft.
Shell Pet. Corp.'s No. 1 Armstrong, NE cor. Sec. 12-33-1e. Drlg. 2,833 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w ..... Rig.

TREGO COUNTY

Dixie & Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w ..... Spudding.
Prairie Oil & Gas Co.'s No. 1 Kutina, C NE SW NE, Sec. 29-15-21w ..... Drlg. 2,060 ft.
Producers & Refiners Corp.'s No. 1 Kingsley, C SE NW NW Sec. 24-14-21w ..... Drlg. 512 ft.
Phillips Pet. Co.'s No. 1 Spitz, SE cor. Sec. 24-12-25w .. Drlg. 1,690 ft.
Mid-Kansas' No. 1 Ridgeway, NE SW Sec 28-12-21w .. Drlg. 3,400 ft.
Day et al's No. 1 Gugler, SW NE NE Sec. 36-12-21w .... Shut down 50 ft.
Day et al's No. 1 Unknown, NE NW SW Sec. 2-11-21w .. Shut down 2,910 ft.

WASHINGTON COUNTY

McCool & Vincent's No. 1 Linn, NW cor. NE Sec. 27-4-3 .. Shut down 2,300 ft.

WALLACE COUNTY

Morton & Entyre's No. 1 Parker, SE cor. NW SW Sec. 20-13-41w ..... Spudded; shut down.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w ..... Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w .... Drlg. 4,080 ft.

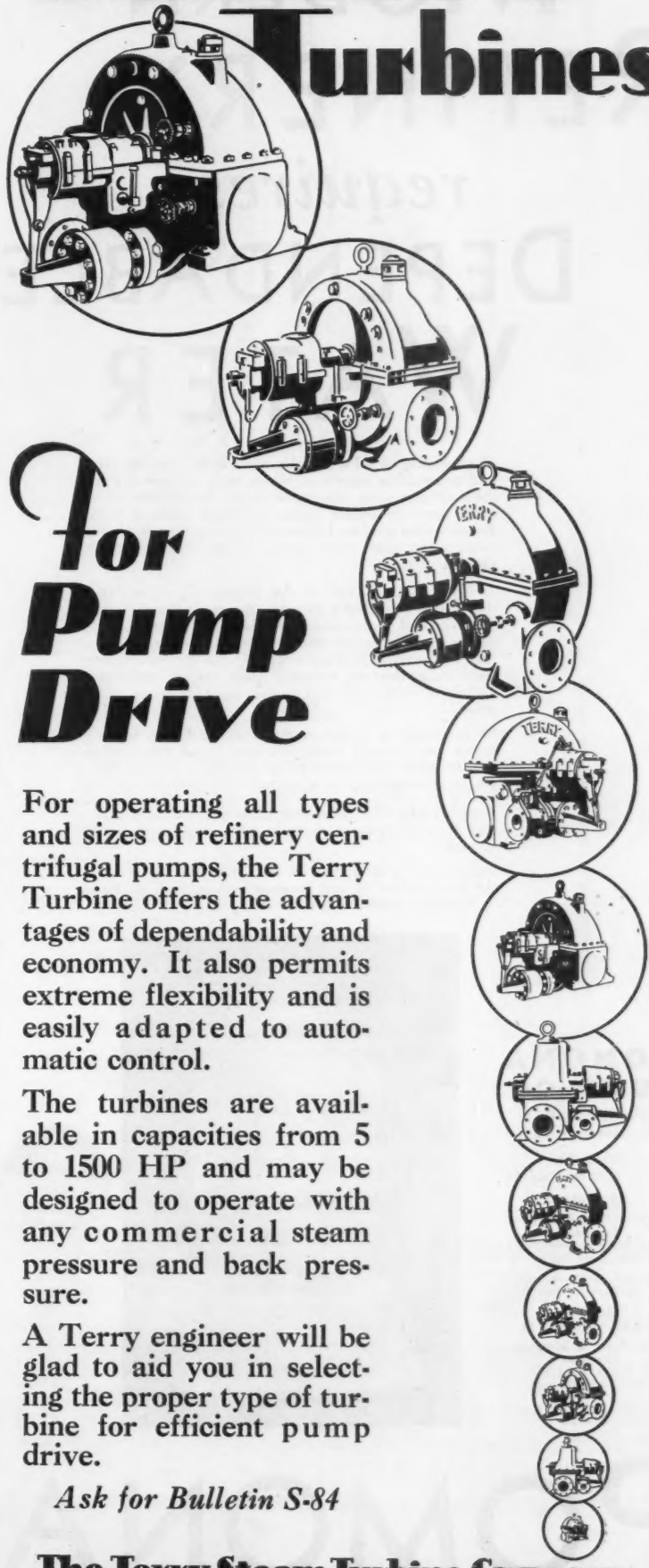
FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w ..... Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w .. Drlg. 3,250 ft.

WEBSTER COUNTY

Mid-States Exploration Co.'s No. 1 Platt, C SE one-half Sec. 3-1n-11w ..... Shut down 555 ft.

TERRY Turbines



For Pump Drive

For operating all types and sizes of refinery centrifugal pumps, the Terry Turbine offers the advantages of dependability and economy. It also permits extreme flexibility and is easily adapted to automatic control.

The turbines are available in capacities from 5 to 1500 HP and may be designed to operate with any commercial steam pressure and back pressure.

A Terry engineer will be glad to aid you in selecting the proper type of turbine for efficient pump drive.

Ask for Bulletin S-84

The Terry Steam Turbine Company

TERRY SQUARE, HARTFORD, CONN.
OFFICES IN PRINCIPAL CITIES
Steam Turbines · Gears · Shaft Couplings

T-1044

THE MODERN REFINERY *requires* DEPENDABLE WATER

The refining of oil is equally dependent upon an ample and dependable supply of water as it is upon oil. The refining processes are made more dependable by relying upon an ample supply of clean pumped water. Pomona Heavy-Duty Industrial Turbine Pumps produce more water than other types of equipment from the same size well.

A few years ago one of the largest oil refineries in the World installed a Pomona Super-Turbine Pump—the excellent performance of this unit—great saving of power and dependability—prompted the engineers of that corporation to place order after order for Pomonas until today thirteen pumping units deliver millions of gallons of water each day to this giant industrial enterprise.

Unquestionable leader in the Turbine Pump Industry today, the Pomona Super-Turbine is the result of intensive effort concentrated on the perfection of but a single product for over a quarter of a century.

Repeat orders for Pomonas have become so common that they are expected—such popularity must be deserved.

Industrial Bulletin No. 16 will tell you the story of the most talked of and greatest selling Turbine Pump in America today. Write for it!

POMONA PUMP CO.

Pittsburgh, Pa.
615 Bessemer Bldg.

Pomona, Calif.
206 E. Commercial St.

Distributors:

Southern Engine & Pump Company
615 Washington Ave.,
Houston, Texas

United Iron Works, Inc.
Springfield, Mo.

Tulsa, Okla.
14th Floor Hunt Bldg.

Menge Pump & Machinery Company
862 Tchoupitoulas St.,
New Orleans, La.

Oceans of Water

POMONA HEAVY-DUTY *Turbine* PUMPS

CENTRAL WEST FIELDS

(Continued from Page 76)

Innis, Sections 24 and 25, Worthington Township.

In Knox County, Cameron and others' No. 7 H. R. Hall, Section 22, pumped 3 bbls. from 2,945-3,002 feet. Ohio Fuel Gas Co. is drilling on the George W. Beckley, Sections 1 and 21, Jackson Township. In Brown Township, the same company is drilling No. 2-4,850 J. J. Hyatt, Sections 3 and 6, and No. 3-4,879 Rose Pryor, Section 3, and made a location for No. 1-4,895 Herbert Funk, Section 12, same township.

In Coshocton County, Clark Township, the Ohio Oil Co. brought in a 100-bbl. initial producer in No. 3 on the Robert Rhode, Section 6, the oil being found at 3,522-83 feet. Ohio Fuel Gas Co. found a dry hole in No. 2-4,787 Cornelia B. A. Cory farm, in the third quarter, Franklin Township, at 3,876 feet. Same company made a location on the Barnes Coal & Mining Co., same quarter. Spindle and others are drilling No. 5 J. Wolford, Lot 24, Pike Township.

Summitt County

In Summitt County, Franklin Township, the Ohio Fuel Gas Co. is drilling on the O. Harring, Section 24.

In Licking County, Perry Township, the Ohio Fuel Gas Co.'s test on the J. C. Scanlon, Section 9, is reported good for 8 bbls. from 634-47 feet. Hope Construction & Refining Co.'s No. 3 J. Wright, Section 14, is a very light gas well from 698-708 feet. Settles Oil Co. is drilling No. 4 Nellie Smith, Section 17. Pure Oil Co. is drilling No. 2 Homer C. Priest, Section 7, Hanover Township.

In Muskingum County, Falls Township, Athey Drilling Co. is drilling Nos. 1 and 2 Edward D. Waler farm. In Clay Township, the Ohio Fuel Gas Co. made a location for No. 1-4,889 S. R. Wigton, Section 10, and Crawley and others are drilling No. 1 A. M. Wigton, and No. 1 on the Nelson-McCoy Pottery Co.'s land, Section 3.

In Athens County, Rome Township, the Ohio Fuel Gas Co. has an average gas well in No. 1-4,819 Henry A. Hatch, Lots 1-31, in a stray Keener sand at 1,228-33 feet. Gross & Freebolt are drilling a second test on the W. E. Baker, Section 25.

In Meigs County, Hazlett and others' second test on the Belle Spencer, Section 11, Sutton Township, is reported good for 6 bbls. in the first Cow Run from 596-613 feet, total depth 615 feet. Tyree and others' No. 8 A. E. Carnahan, same section, is a 5-bbl. initial producer in the same formation from 580-95 feet, total depth 600 feet. Same parties are drilling No. 2 Stanley Holter, Section 13. In Bedford Township, the Ohio Fuel Gas Co. is drilling No. 1-4,831 S. and M. Atkinson, Section 26, and made a location on the William Thomas, Section 32. H. F. McTaggart is drilling on the A. P. Willock and others' farm, Section 23.

In Jackson County, Franklin Township, the Ohio Fuel Gas Co. has a light gas well in No. 2-4,767 Dan Alban, Section 21, in the Clinton lime at 2,609-23 feet, total depth 2,628 feet. Penn Ohio Gas Co. is drilling No. 3 Charles Swan, Lot 67, Lick Township.

Vinton County

In Vinton County, Swan Township, the Ohio Fuel Gas Co. is drilling No. 1-4,848 Ellen McQuade, Section 35, also No. 2-3,595 H. and C. Wyatt, Section 3, Richland Township.

In Tuscarawas County, Washington Township, George Jewell and others' test on the G. W. Smeltz, Lot 35, produced an initial of 90 bbls. in the Niagara at 3,370-3,407 feet. W. C. Adair and others have an average gas well on the Robert McKean, Section 21, Oxford Township, in the Niagara, from 3,370-3,407 feet, and from 3,445-58 feet, there being two gas veins.

In Stark County, Lawrence Township, the Penn Oil & Gas Co. drilled in a fair gas well on the George Seifert, Section 4, at 3,869-90 feet. Johnson & Stolz are drilling on the Martha Woods, Section 33, Tuscarawas Township, same county.

In Guernsey County, Wheeling Township, the East Ohio Gas Co.'s test on the E. C. Quillan, Section 11, produced 80 bbls. initial from 3,410-3,579 feet, total depth 3,583 feet. Nos. 2 and 3, same farm, are drilling. Ohio Fuel Gas Co. is drilling No. 1-4,780 C. C. Wilson, same section.

In Pike County, Beaver Township, the A. & P. Oil & Gas Co.'s second test on the Herman Shy, Section 31, got a showing of gas at 465 feet, but hole is full of water.

In Gallia County, Addison Township, the Penn Ohio Gas Co. is drilling on the W. T. McCullough, Section 20, and the Huston Oil & Gas Co. is drilling No. 3 John Brothers, Section 15.

In Scioto County, Green Township, Waggner & Matthews are drilling on the Herr and Adams, Lot 59.

In Morgan County, Marion Township, the Ohio Fuel Gas Co. has a fair gas well in No. 2-4,806 Russell Janes, Section 24, in the second Berea sand from 1,558-80 feet, total depth 1,588 feet. Bowman Oil & Gas Co.'s No. 3 Charles Bowman, Section 7, is a fair gasser in the Maxon sand from 943-64 feet. Woodyard Brothers and Scott found a dry hole in No. 6 Harvey S. Howell, in the upper Cow Run sand from 303-11 feet, total depth 318 feet. Williams Brothers are drilling No. 5 Curtis M. Ellis, Lot 4, same township. In Penn Township, Chouquill and others have an average gas well in No. 7 Ella Crew, Section 35, in the lower Berea from 1,564-87 feet, total depth 1,592 feet. Henning Brothers are drilling No. 13 Ezra McDaniel, Section 10. Huffman and others drilled a dry hole in No. 4 Austin Newburn, Section 6, Homer Township, in the Maxon sand from 820-25 feet, total depth 863 feet.

INDIANA

F. B. Hillis, trustee, drilled in a 30-bbl. pumper in the northwest corner of the W. H. Lindy, SW, Section 31, Clay Township, Pike County, in southwestern Indiana, getting the sand at 1,311-20 feet. In Madison Township, A. B. Bement abandoned No. 2 J. P. Coleman, location 14. C. C. Taliaferro, Jr., is drilling on the Frank DeMott farm, 2 miles south of Otwell. Bement Gas Co. is drilling on the W. H. Shawhan, in Madison Township. Robertson and others are working at a test on the Byron Preston, Section 30, Washington Township.

United Oil Corp.'s test on the Duncan heirs' farm, SW, Section 5, Barton Township, Gibson County, 1,105 feet from the north line and 215 feet from the east line of the lease, is at a total depth of 1,638 feet. In Washington Township, the Ohio Oil Co. abandoned Nos. 2 and 3 W. A. McRoberts, Section 7. Shell Petroleum Corp. is drilling Nos. 2 and 3 George Allen, in Columbia Township.

Hamil & Dill are drilling on the Prevo-Frake, Section 32, Prairie Creek Township, Vigo County.

Seitz and others are drilling No. 2 G. W. Buff, Section 4, Gill Township, Sullivan County.

Indiana Oil and Gas News

Compiled by Paul F. Simpson, state gas supervisor, Department of Conservation, Division of Geology, Indianapolis, Ind., by counties.

Adams County. — Scoofakes & Heflin are planning to drill on their lease 2 miles east of Geneva. George S. Lacknett's third well on the Otto Baker farm, in Section 4, Jefferson Township, was completed a producer. His second well on the Sam Egley farm, in Section 3, is also a producer, and another well is being drilled. O'Neill Brothers are starting a well on the John Teeter lease in Section 6, same township. A. C. Spindler's test on the S. Teeter farm, in Wabash Township, was completed a dry hole.

Clay County. — The Siosi Oil Co. is drilling 1½ miles south of Staunton, in Posey Township, where it is said to have a large acreage leased.

Daviess County.—L. G. Gee and others completed their No. 3 Alonzo Veale, at a total depth of 1,335 feet, getting an

(Continued on Page 148)

BLACKOR

Stops rapid abrasion.
Speeds up drilling.
Costs less to apply.
Less time required.
No soft exposures.
No insert material needed. Covers entire cutting surface.

BLACKOR can be easily and quickly applied with the carbon electric arc by your welder. It is adapted to every type of bit and eliminates the need of a primary hard-facing material. There is no other material like Blackor and none can compare with it in hardness. If you want to make more hole in less time...Blackor your bits.

BLACKOR COMPANY

Head Office: 215 West 7th St., Los Angeles, Calif.

New York Export Office: 39 Cortlandt Street

Tulsa, Oklahoma Office: 410 Mid-Continent Bldg.

Patent No. 1,613,942
Patent No. 1,424,536

PROTECTED BY AMERICAN PATENT PROTECTION CORPORATION

Patent Reissue No. 17,221
Other Patents Pending

BLACKOR

THE SUPER ABRASION-RESISTANT FACING

Yes, there are less expensive hotels than the Ritz, but the sophisticated traveler appreciates, more than anything else, the security and peace of mind of facilities he can depend upon.

There are also cheaper methods of cementing than the Halliburton method—but even the cheapest lock is expensive when used to protect a treasure chest!

HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Oklahoma

AVIATION MAKING STRIDES IN PETROLEUM INDUSTRY

(Continued from Page 42)

period of time at the Cleveland, Ohio, air meet, which was a national affair and extensively advertised as such.

In a report of the activities of the Tulsa Municipal airport it is stated that from July 3, 1928, when the landing field was made ready to accommodate the National Air Tour, up to October, 1929, a total of 40,295 passengers have been handled without an accident and 10,634 ships arrived and departed.

Tulsa has been on one of the national air routes for mail for some time and over 24,000 pounds of air mail have been handled since this service was established. A letter mailed at the Tulsa post office before 11:50 a.m. will be in New York City the next day at 6:40 a.m., or another letter mailed at the same time will reach San Francisco at 4:30 p.m. the following day.

Because of this great interest in aviation the management of the International Petroleum Exposition set aside space at the show grounds for a display of aircraft and about 10 ships were on display varying in size from the Gypsy Moth exhibited by the Garland Aircraft Co. to the giant Emsco Challenger, an 8-place job that sells for around $25,000, with several intermediate size planes suited for general purposes.

The oil man's interest in aircraft is made evident by the fact that several men who have long been identified with the petroleum industry in one way or another are now actively engaged in the airplane industry, notably E. M. Smith, of Emsco Derrick & Equipment Co. of Los Angeles, who is interested in the Emsco Aircraft Co. of Downey, Calif.; William G. Skelly, president of the Skelly Oil Co., who is also president of the Spartan Aircraft Co. of Tulsa, and Robert Garland and Erle P. Halliburton, who are also interested in the business as owners of ships that are flying in regular service.

Large Use in California

The interest of the Emsco Co. was directed to airplanes because of the fact that oil operators in California were using this method of transportation in their business and the Emsco Aircraft Co. is now making four types of planes, the Sport model, a 2-place machine; the Challenger, an 8-place job, and a 300-horsepower single motor ship that also has eight places and the Emsco Amphibian bi-motored cabin plane for five passengers and a pilot.

The term "place" indicates a seat for one person so in the eight-place planes using two pilots, six seats are left for the passengers.

The Emsco Challenger is a super-powered machine of the cabin monoplane type equipped with three 170-horsepower Curtis Challenger type motors and has a gross weight of 5,700 pounds. It is a well built and tested machine with Bendix brakes, shock-absorbing struts, motor starters, running and landing lights and all modern aircraft accessories. The landing lights are built into the wings in such a manner as to permit of their being kept flush when the plane is in the air and they are not needed but capable of being turned to an yangle desired to throw light upon the landing field as the plane comes to earth.

The cabin of the ship is insulated against noise and the seats are quite comfortable, while ample space for baggage is to be found in the tail of the machine. This airship has a cruising speed of 100 miles per hour and a maximum speed of 135 miles per hour. At cruising speed it requires about five gallons of gasoline per hour or approximately 20 miles is made for each gallon consumed.

The 2-place Cirrus type ship is built to approximate pursuit performance with the economy of a runabout and is powered with a 90-horsepower 4-cylinder motor and is used for training and sport flying. Planes of this type are quite popular in the oil fields for men who fly their own machines for it will take off and land on a small field as the landing speed is only 31 miles per hour.

The Spartan Aircraft Co. of Tulsa had one of its type 3-C 165-horsepower 3-place open cockpit biplane machines on exhibition at the show. This ship is powered with 165-horsepower Wright Whirlwind motor that gives it a cruising speed of about 110 miles per hour and during the exposition air races pilots in this type of airship won both first and second prizes and averaged 117 miles per hour on a closed course.

Spartan School Approved

The Spartan School of Aeronautics at Tulsa, operated in conjunction with the Spartan Aircraft Co., has just recently been approved by the United States Department of Commerce, and is now prepared to give instructions in transport flying school and transport ground school work, this being the highest rating given by the Department.

The physical equipment of the Spartan school now includes 11 training planes, primary, advanced and cabin, five buildings affording four classrooms, offices, laboratory, hangar, restaurant and accommodations for more than 100 resident students. The instruction staff is composed of five ground and four flying instructors.

The Garland Aircraft Co., the Curtiss Flying Service Co. and the Tulsa Municipal Airport also had ships on exhibition while one or two independent owners were showing their machines at the grounds.

Schools for giving instructions in flying have been established at several of the Tulsa airports and the attendance has been very good as a number of men interested in the different branches of the petroleum industry have learned to fly even though they do not at this time own their own machines.

That the men of the oil industry are rapidly becoming "air-minded" seems an established fact and the expansion of the use of the airplanes of various types seems quite certain for their general utility has been proven and the saving in time to many operators is such that this is in reality their cheapest mode of transportation.

PENNSYLVANIA CHANGES IN PETROLEUM SITUATION

(Continued from Page 39)

they were a year ago. Most Pennsylvania refiners refine a high gravity premium grade of kerosene. Low priced competition has developed in this business also, and this has been a minor factor in the Pennsylvania refiners' position over the past few months.

The gas oil and fuel oil market in Pennsylvania as in other areas, has shown little change over the past year. These are minor products in the Pennsylvania refinery operation.

Lubricating Oils

The comparative prices for neutral oils and cylinder stocks as shown in the table point to the most interesting change in the Pennsylvania situation. It will be noted that while the 150-3 color neutral a year ago and as late as April 15, 1929, brought 21.5 cents per gallon the price is now 15.5 cents. There has also been a smaller reduction in the higher viscosity grades of neutral.

This development is due to a marketing situation rather than a large increase in the available supply. The Pennsylvania refiners acting individually and collectively with producers through the Pennsylvania Grade Crude Oil Association last year created a popular demand for motor oil made from Pennsylvania grade crude oil. This business, although important competition has developed, has continued to expand and as was stated in the beginning, few complaints are heard, regarding the demand for the finished motor oils or the stocks and oils used in compounding the finished products.

But this demand has centered in the heavier motor oils of high viscosity. This naturally has slowed up the demand for the low viscosity neutral and non-viscous oils. This accounts for the slump in the 150 viscosity price and smaller declines in the higher viscosity grades.

Cylinder Stocks

It is in the cylinder stocks that the Pennsylvania refiner has had the large increase in demand and higher prices. It will be noted that 600 steam refined stock which was selling for 13½ cents per gallon a year ago is now bringing 25½ cents a gallon. The product commonly known as Pennsylvania flash, is now selling at 31½ cents in contrast to a price of 19 cents a year ago.

As shown in the table these steam refined prices are not as high as they were in April. In the past two or three months the output of these products has been increased and although there is no overproduction at this time the several grades are more freely available at lower prices.

Bright stock has been the strong product of the Pennsylvania market over the past two years and this strength continues up to the present time. This product which sold as low as 28 cents a gallon in 1927, is now selling at 52 and 53 cents.

The demand for these cylinder stocks is a reflection of the constantly increasing consumption of Pennsylvania motor oils previously mentioned. The percentage of these heavy oils used in compounding the finished motor oils is much greater than it was up to 1928 and this fact, coupled with the increased retail consumption has resulted in a scarcity and peak prices.

A few companies which inaugurated national distribution of their lubricating oils are now enjoying the results of their intensive sales campaigns. The increase this year has been especially noticeable in the aviation trade. One company has featured this outlet in its marketing program and the demand now takes a substantial part of its total output of lubricating oils.

Improved Processing

A year ago several of the Pennsylvania refiners were installing new equipment at their refineries. Most of this equipment has been in operation for several months and the results have justified the expenditures and additional improvement programs are under way. It is now apparent that the Pennsylvania refiner specializing in lubricating oil manufacture, must modernize his operation if he is to continue in operation. The old methods which were satisfactory with few changes over a period of 25 years must give way in a competitive situation which now demands that maximum yields of finished products be obtained at the lowest possible costs.

Some of the new installations at Pennsylvania refineries have been described in recent special articles appearing in The Oil and Gas Journal. New installations which have been in operation for several months apparently have accomplished about all that could be desired in that yields have been increased, costs lowered and quality of products improved. Although the Pennsylvania lubricating oils have always ranked high in quality the improvements made in processing oils from other crude oils has made it necessary for refiners to give as much attention to that phase of their operation as they have to increased yields.

The new installations have done away with most of the rerun operation which characterized the former methods. Bubble towers have made it possible to secure gasoline and kerosene without rerunning. In the processing of the heavy ends for lubricating oils the tube still has been found to be an improvement over the old shell still. Wax distillate is taken direct from the towers to the wax presses without being rerun. Towers have given a sharp separation of the heavy stocks so that the treating operation has been simplified and the viscosity and fire tests of the finished products improved.

It is probable that the expansion and improvements in plant operation will be reflected in the prices received for refined products another year. Most market observers agree that the exceptionally high prices for bright stock are due to the fact that the plant facilities have not been sufficient to increase the output in line with the demand. There is sufficient light stock for the manufacture of the bright stock and several refiners are enlarging their bright stock equipment and will have more of the product to sell next year. These expansion programs in time assure a return to a normal price relationship between all products.

Lowering Cold Test

At this time considerable attention is being given to refrigeration in lowering the cold test of the motor oils. Competitive conditions have brought a demand for zero or near zero motor oils. Some of the Pennsylvania refiners feel that the stress being placed on low cold test oils is unjustified so far as their products are concerned claiming that the 25 to 30 cold test product will give satisfactory performance under all climatic conditions.

Despite this contention several refiners are now stressing the low cold test of their trade marked products. This requires additional refrigeration equipment with more attention being paid to all phases of the dewaxing operation.

Changes in Ownership

There have been a few changes in ownership of Pennsylvania refineries over the past months and there are numerous rumors regarding other contemplated changes. The successful merchandising of Pennsylvania lubricating oils has attracted the attention of large companies and it is believed that either through direct ownership or through contracts some of these companies will assure themselves of a supply of lubricating oils.

The purchase of a controlling interest of the Tiona Refining Co. by the Richfield Oil Co. reflects this situation. Another California company has made a contract with a Bradford refiner for large shipments of Pennsylvania oil. Several other similar agreements are reported to be pending.

PROBLEMS FACING BRADFORD OPERATORS

(Continued from Page 38)

water line located there is very little evidence that a definite water encroachment has taken place such as is known in western pools. From the most reliable information obtainable, the oil-water contact has remained practically stationary during the past life of the field and at the present time there is no indication of water movement. . . .

"It is reasonably certain that the entire reservoir rock was at one time completely saturated with sea water. The salts which are dissolved by the flood water must be, at least partly, crystallized in the sand. The top part of the sand is generally very calcareous and fossiliferous. This fact would indicate marine conditions during the final stages of deposition and would thus permit a saturation of the sand with sea water prior to its final burial by succeeding beds."

A Dry Sea Bed

From Mr. Torrey's description of the Bradford sand and its content one may conclude that while, excepting for edge-water, there is no salt water in the Bradford sand, there are salts in plenty. The changes that take place in the flood water from the time it enters the sand in an intake well until it reaches the nearest oil well, perhaps 150 feet distant, show this plainly.

During a recent visit to the Bradford Field, George W. Bovaird of Bovaird & Co. gave the writer copies of two analyses made for that firm by the International Filter Co., one being of a sample of water going into an intake well located at Duke Center in the Bradford Field and the other a sample of water from an oil well on the same property one location from the intake well. The concentration of the water from the oil well is 31.7 times that of the water being introduced into the intake well, showing that the horizon being flooded is carrying a considerable amount of water-soluble salts which are dissolved by the flood water.

Intake Water Content

Following is the report of the water

analysis from water going into the water intake well:

Report of water analysis made by the International Filter Co. of 333 West Twenty-fifth Place, Chicago, for Bovaird & Co. of Bradford, Pa., from water going into a water intake well, located at Duke Center, Pa.:

	Parts per million	Grains per gallon
Physical characteristics—		
Suspended matter	12	0.7
Turbidity	12	
Chemical characteristics—		
Total hardness as CaCo	45	2.7
H (comp.) as CaCo	45	2.7
Calcium hardness as CaCo	30	1.8
Magnesium hardness as CaCo.	15	0.9
Alkalinity (M) as CaCo	198	11.9
Alkalinity (P) as CaCo	2.0	0.12
Hypothetical combinations—		
Calcium carbcnate	30	
Calcium sulphate	..	
Calcium chloride	..	
Magnesium carbonate	13	
Magnesium chloride	..	
Iron oxide (unfiltered samp.).	5.7	
(Sample filtered through paper)	n.d.	
Silica	7.0	
Suspended matter	12	
Color (apparent as received)..	Slight yellow	
(After filtration through paper)	n.d.	
Odor	.....	
	Parts per million	Grains per gallon
Total dissolved solids	271	16.3
Sodium salts	215	12.9
Iron as Fe	4.0	0.24
Manganese as Mn	n.d.	
Mineral acidity	..	
pH	n.d.	
Sodium sulphate	..	
Sodium chloride	53	
Sodium carbonate	162	
Free carbon dioxide	..	
Hydrogen sulphide	..	
Total sulphates, chlorides and sodium carbonate	215	

Note.—To convert parts per million to grains per gallon, multiply by 0.06; to convert grains per gallon to parts per million, multiply by 17.12.

Changes in the Water

Below is the analysis of the water taken from the oil well one location distant (about 150 feet) from the intake well:

Report of water analysis made by the International Filter Co. of 333 West Twenty-fifth Place, Chicago, for Bovaird & Co. of Bradford, Pa., from water taken from an oil producing well one location from the water intake well located at Duke Center, Pa.:

	Parts per million	Grains per gallon
Physical characteristics—		
Suspended matter	30	1.8
Turbidity	30	
Chemical characteristics—		
Total hardness as CaCo	1,968	118.1
H (comp) as CaCo	n.d.	
Calcium harness as CaCo	1,730	103.8
Magnesium hardness as CaCo.	238	14.3
Alkalinity (M) as CaCo	160	9.6
Alkalinity (P) as CaCo	..	
Hypothetical combinations—		
Calcium carbonate	160	
Calcium sulphate	2,140	
Calcium chloride	..	
Magnesium carbonate	..	
Magnesium sulphate	264	
Magnesium chloride	17	
Iron oxide (unfiltered samp.).	2.9	
(Sample filtered through paper)	n.d.	
Silica	10	
Suspended matter	30	
Color (apparent as received)..	Slight yellow	
(After filtration through paper)	n.d.	
Odor	Oily	
	Parts per million	Grains per gallon
Total dissolved solids	8,564	513.8
Sodium salts	6,000	360.0
Iron as Fe	2.0	0.12
Manganese as Mn	n.d.	
Mineral acidity	..	
pH	n.d.	
Sodium sulphate	..	
Sodium chloride	6,000	
Sodium carbonate	..	
Free carbon dioxide	8.0	
Hydrogen sulphide	..	
Total sulphate, chlorides and sodium carbonate	8,421	

Note.—To convert parts per million to grains per gallons, multiply by 0.06; to convert grains per gallon to parts per million, multiply by 17.12.

Convenient Comparative Table

For the purposes of comparison, Roy L. Ginter of the Tulsa Laboratories has rearranged the analyses into the following table showing the remarkable changes that take place in the flood water in a short journey through Bradford sand:

REARRANGEMENT OF ANAYSES SUBMITTED
Subject: Bovaird & Co., Bradford Field Water Analyses

Sample No.—	1 Ppm	1 RV%	2 Ppm	2 RV%
Calcium (Ca)	12.0	6.103	692.0	12.580
Magnesium (Mg)	3.6	3.016	57.1	1.710
Alkalies (Na)	92.2	40.881	2,253.0	35.710
Chloride (Cl)	32.1	9.226	3,639.0	37.394
Sulphate (SO_4)	0.0	0.000	1,510.2	11.440
Carbonate (CO_3)	1.2	0.404	0.0	0.000
Bicarbonate (HCO_3)	241.5	40.370	195.2	1.166
Total solids by analysis	259.8	100.000	8,247.3	100.000
Carbon dioxide (CO_2 free)	0.0		8.0	
Iron oxide, unfiltered	5.7		2.9	
Silica	7.0		30.0	
Suspended matter	12.0		30.0	
Properties of reaction (per cent)—				
Primary salinity		18.452		71.420
Secondary salinity		0.000		26.248
Primary alkalinity		63.310		0.000
Secondary alkalinity		18.238		2,332

Ppm = parts per million. RV% = Reactive value per cent.

Key to Samples

No. 1.—Bovaird & Co. of Bradford, Pa., water going into water intake well, Duke Center, Pa.

No. 2.—Bovaird & Co. of Bradford, Pa., water from an oil producing well one location from the water intake well, Duke Center, Pa.

Iron Oxide Deleterious

A study of the tables will show that while the flood water picks up a great volume of solids in the sand, it loses nearly half its original iron oxide content, and it is this precipitation of iron oxide that is largely responsible for the necessity of filtering the water. As was briefly mentioned in a previous article on the Bradford Field (The Oil and Gas Journal, August 15) the action of compressed air on the iron oxide content of the flood water converts it into a gummy or gelatinous substance that partly or altogether seals the face of the sand in the intake well. This can be removed by running a string of small pipe down through the tubing to the bottom of the intake well, forcing water through it and washing the face of the sand clean, but this is at best a temporary relief. How to effectually get rid of this and any other deleterious matter is the object of filtration plants. Here is where the chemist comes in as an aid to the physicist, the engineer and the geologist, who have preceded him. One of the reason the Petroleum Reclamation Co. is spending nearly half a million on a 20-inch water pipe line from Allegany, N. Y., to Dallas, Pa., a distance of 9 miles, is to obtain a supply of flood water from the Allegheny River that will be better adapted to the work than the ground water taken from wells on or near the producing properties. Primarily the new water supply is being procured because of the lack of a constant supply of water on the hill top properties, but the matter of a better flooding water had considerable to do with the company's expensive project.

In addition to the quality and quantity of water used in flooding operations is the very important matter of pressures. Under present methods of operation and their improvement there are problems of the most effective water pressure for any given sand conditions. More closely associated with this problem is also to determine the most effective methods of forcing the water into all parts of the pay sand. At the present time it is doubtful if much of the sand under water pressure is permeated by the water. A. F. Melcher, who has given much study to the Bradford sand, doubts if even more than one-fifth of the oil sand is flooded where flooding is now in progress, and it may be even less than this amount. This is one of the most important problems facing Bradford operators and their scientific aides.

Forcing the oil out of the more porous parts of the sand is a comparatively easy matter, but the less porous parts may contain as much stored oil as the soft sand.

Great progress has already been made in using high pressures on intake wells in the removal of oil from the tighter sand regions. However, with the use of high pressures there is also more danger of by-passing of the water through the sand.

While the Bradford sand is considered fairly uniform in relation to oil sands in other parts of Pennsylvania, and especially to Mid-Continent oil sands, it is still quite irregular in porosity and permeability, varying from about 11 per cent or 12 per cent to as high as 26 or 27 per cent in porosity, and may vary as high as several hundred times in permeability. When there are such great differences in permeability of the sand it can readily be seen how much oil sand can be by-passed by the water.

Tunnelling and Draining

Under the problems of new methods of removal of oil from the Bradford sand will come these problems of the use of solvents; the sinking of shafts and tunnels with drainage wells or channels through the sand. The great advantage of sinking shafts and tunnels with wells and drainage channels is that wells or drainage channels can be spaced much closer together with less expense so that the removal agent, especially in the case of solvents, can be used over and over again.

It can be seen that in the solution of problems where analysis of oil sands, analysis of water, use of solvents, high pressures, most effective pressures, working out sand trends, sand conditions, filtering of water, etc., there will be needed the combined efforts of the practical oil field man, the geologist, petroleum engineer, physicist and chemist.

With a billion or more barrels of oil as the stake, all of it lying from 1,100 to 1,800 feet in depth and of a quality very much in demand in the manufacture of high grade lubricating oils this old field is well worth the study and experiments to which it is being subjected and the large investment of capital which in recent years has characterized the development of the big area.

CODE NOT PERFECT BUT DESERVES TRIAL

(Continued from Page 41)

into actual practice a naticnal marketing code of ethics for the business.

The executive committee of the Institute selected the second suggestion and in April, 1928, adopted a resolution authorizing the executive officers of the organization to engage in activity looking toward the formulation of a national code. The country was divided into six geographical regions and six regional committees, each composed of refining or marketing executives, were formed. Each committee was requested to draft its own ideas of a set of marketing rules which it would recommend for a national code. The chairmen of these six committees were constituted a general committee and requested to take all recommendations and draft a recommended code. This general committee was composed of Roy B. Jones, Panhandle Producing & Refining Co., Wichita Falls, Tex.; K. R. Kingsbury, Standard Oil Co. of California, San Francisco, Calif.; P. M. Miskell, Empire Refineries, Inc., Tulsa; E. T. Wilson, Continental Oil Co., Denver, Colo.; Henry M. Dawes, Pure Oil Co., Chicago, Ill., and R. C. Holmes, The Texas Company, New York.

The general committee presented its report and recommendation to the board of directors of the Institute at Chicago in December, 1928. The Board discussed the report for three days, numerous changes were made and a national code of practices was approved unanimously by all directors present. This code was presented to an open meeting of oil men at a group session of the Institute's 1928 annual meeting and approved.

The record of the Institute's official action was presented to the Federal Trade Commission with a petition for approval. The commission called and subsequently held at St. Louis on February 11, 1929, a public hearing at which the proposed code was discussed rule by rule. With some changes the industry's conference, presided over by the chairman of the Federal Trade Commission, recommended a complete code. The commission made some changes in the recommendations made and on July 25, 1929 issued the code. The board of directors of the Institute, on July 30, 1929, approved the code authorized by the commission and to date about 1,500 companies engaged in refining or marketing have informed the commission of their acceptance of the rules of the code, effective August 31, 1929.

The code of marketing rules is another voluntary oil conservation measure. It is designed to do away with or abolish some of the evils of destructive competition. The rules are not perfect. Most of them were written after innumerable conferences, discussion and compromise of conflicting opinion and interest. The code is the composite result of the work of hundreds of oil men and represents an honest effort to set up standards that will result in fair dealing for all, including the consumer in general, and in helping companies to effect economies in operation. No other thought or motive underlies this code.

Production of any commodity is carried on to serve consumption and for no other purpose. People do not consume things in order that some one may produce them. The reverse is true—we produce things to consume them. Business men know that this is an elementary law, but they do not apply it. In petroleum, we have overproduced crude oil, overproduced refined products when we should, as business men, have applied the rule to which I have referred. It is tragedy for the oil industry when we cannot face facts and always balance our production with consumption or, in other words, produce our products strictly in answer to the question: "What amount of my product does the consumer actually need?"

As the petroleum era developed vast quantities of new money poured into the business. New producing areas were rapidly discovered, the refining capacity of the country grew in disproportion to consumption requirements and marketing organizations multiplied with astonishing rapidity. Refiners overproduced gasoline and other products and the contest for mastery in the field of product distribution led to enormous and unnecessary marketing wastes.

What has been most seriously wrong with petroleum marketing, you ask? The answer is that our form of competition has been too "individualistic" in the worst sense of the word. Unorganized and unguarded competition has inevitably lowered the ethical sense, marketing structures have been disintegrated and intrinsic values destroyed.

For years almost every man in the oil business witnessed the growth of evil and unsound marketing practices. Many have complained bitterly. Every fellow has blamed the other fellow. Many have resisted, but unorganized they were impotent. No single unit in the business was or is powerful enough to effect wholesale changes in wasteful methods known to exist.

Several years ago the United States Bureau of Census reported 334,212 retailers of groceries—one grocer at that time for every 72 families. Figuratively, like the filling station, a grocery store on every street corner. Has any oil man ever heard of a wholesaler of groceries leasing the corner lot for the grocer, constructing the building and installing the fixtures free and then openly or secretly extending him an unusual line of credit and giving him all manner of discounts and premium to induce said grocer to handle the wholesaler's line of groceries? Perhaps you have heard of such a wholesale grocer, but I have not and it is not exaggerating to say that the things enumerated, and more, had grown to be common practice in the marketing of refined petroleum products, particularly gasoline.

TEXAS PANHANDLE

(Continued from Page 66)

abandoned at 1,350 feet. E. L. Smith's No. 9 George had an initial production of 520 bbls. at 1,321-40 feet. The Texas Company's No. 8 Kessler had an initial production of 260 bbls. at 1,290-1,308 feet. Its No. 9 Kessler had an initial production of 235 bbls. after having been shot with 7 quarts at 1,282-1,302 feet. Young Brothers & Alexander's No. 12 Kilgore had an initial production of 15 bbls. after having been shot with 10 quarts at 1,293-1,306 feet.

Coleman County

Eastland Oil Co.'s No. 1 Crowder had an initial production of 100 bbls. oil and 15 bbls. water at 2,018-42 feet. Eastland Oil Co.'s No. 1-C Keeney was dry and abandoned at 3,340 feet after having a 60-quart shot at 2,550-60 feet. Midwest Oil Co.'s No. 5 Keeney had an initial production of 35 bbls. after having been shot with 5 quarts at 2,007-20 feet. Levi Smith's No. 3 Morris had an initial production of 150 bbls. at 1,980-2,021 feet. Tower-McKenna's No. 2 Crowder had an initial production of 150 bbls. at 1,982-2,018 feet. Their No. 4 Crowder had an initial production of 400 bbls. at 1,990-2,022 feet. White Eagle Oil & Refining Co.'s No. 7 Morris had an initial production of 150 bbls. at 2,017-38 feet. Its No. 12 Morris had an initial production of 125 bbls. at 1,993-2,018 feet. Its No. 16 Morris had an initial production of 150 bbls. at 1,990-2,025 feet; No. 24 Morris had an initial production of 125 bbls. at 1,991-2,026 feet. Shallcross Oil Corp.'s No. 1 Bigham was plugged and abandoned at 1,150 feet.

Eastland County

Arab Gas Corp.'s No. 2 Harbin had an initial production of 17 bbls. after having been shot with 30 quarts at 1,527-39 feet. Conway Brothers & Champion's No. 6 Simmons was dry and abandoned at 1,161 feet. Gholson and others' No. 1 Collen was dry and abandoned at 3,142 feet.

Callahan County

Mook-Texas Co.'s No. 2 Johnson and others had an initial production of 12 bbls. at 1,608-28 feet.

Shackelford County

Bascom and others' No. 1 Nail was dry and abandoned at 1,060 feet. Big State Oil Co.'s No. 13 Russ-Webb was dry and abandoned at 1,016 feet. R. H. Caperton's No. 1 Todd was dry and abandoned at 500 feet. Gibson-Johnson's No. 1 Simpson had an initial production of 10 bbls. at 1,516-19 feet. Richardson & Callihan's No. 1 King was dry and abandoned at 1,917 feet.

Stephens County

Mesa Oil Corp.'s No. 1 Corbett was dry and abandoned at 3,085 feet. Chestnut & Smith's No. 1 Storm was temporarily abandoned at 3,990 feet. J. B. Dale's No. 3 Litton had an initial production of 3 bbls. at 1,705-08 feet. States Oil Corp.'s No. 5 Sikes had an initial production of 26 bbls. at 1,900-20 feet. Striplin's No. 1 Redwine had an initial production of 5 bbls. at 3,672-3,712 feet.

PANHANDLE COMPLETIONS
Week ending October 19

Carson County

Gulf Production Co.'s No. 3 Cooper, located 330 feet south and 990 feet west of NE cor., Section 9, I.&G.N.R.R. Survey, was drilled to a total depth of 3,130 feet, had an oil show at 3,055-60 feet and at 3,060 feet to 90 feet and an initial production of 437 bbls. Its No. 4 Cooper, located 330 feet south and east of NW SW, Section 5, Block 5, I.&G.N. R.R. Survey, was drilled to a total depth of 3,135 feet, topped the pay at 3,060 feet and had an initial production of 310 bbls.

Gray County

Danciger Oil & Refining Co.'s No. 4 Beck, located 330 feet south and west NE Section 28, Block B-2, H.&G.N.R.R. Survey, topped the pay at 2,843-59 feet, was drilled to a total depth of 2,859 feet and had an initial production of 537 bbls. Dodson and Shell Oil Corp.'s No. 1 Saunders (formerly Big Gray Oil Co.) was drilled to a total depth of 3,110 feet, topped the pay at 2,985-90 feet, and an initial production of 820 bbls. Independent Oil & Gas Co.'s No. 1 Hollenbeck, located 990 feet each way from NE cor., Section 176, Block 3, I.&G.N. R.R. Survey, was drilled to a total depth of 3,470 feet, topped the pay at 2,425-2,825 feet, was plugged back to 2,825 feet and had an initial production of 27,000,000 feet of gas. McMan Oil & Gas Co.'s No. 6 Palmer, located 330 feet south and east of northwest 100 acres of the west 200 acres of Section 31, Block B-2, H.&G.N.R.R. Survey, had an initial production of 300 bbls. at 2,935-44 feet. The Texas Company's No. 3 Bruce Bull, located 330 feet from north and 330 feet from west of Section 2, Block B-2, was drilled to a total depth of 2,875 feet, topped the pay at 2,668 feet and had an initial production of 24,000,000 feet of gas.

Hutchinson County

Rock Creek Oil Co.'s No. 4 Johnson, topped the pay at 2,830-62 feet, was drilled to a total depth of 2,995 feet and had an initial production of 100 bbls.

JOBBERS IN DISCUSSION OF ONE-STOP STATIONS

(Continued from Page 41)

one of these requires additional capital and a relatively large amount of it. C. L. Buell, representing the Goodyear Tire company, gave his version of the future of one-stop stations, in a meeting under the chairmanship of A. C. Carpenter, president of the Kansas Oil Men's Association.

Mr. Buell said the single stop stations seemed to be a logical development in the business of supplying the wants of a motorist but there remains a question whether the gasoline jobber should enter the tire business or whether the tire dealer should go into the oil business. Both classes of jobbers are being told that unless they keep abreast of the times, failure is certain. Recognizing the possibility of this threat, many are tempted to build superstations involving a great outlay of capital, the addition of battery testing equipment, brake testing equipment, wheel alignment and car washing equipment and some are supplying rest rooms to be used while car is being serviced. To be a success, such a station requires good mechanics. Skilled mechanics in all branches of the repair work means that several men may be needed in addition to the attendants who dispense the gasoline and oil. The greater overhead must certainly be considered before such a station is built.

Mr. Buell said the greatest hazard in such an undertaking, on the part of the oil jobber, is that he is tempted to throw all of his ready capital and all he is able to borrow, into these stations, leaving no reserve on which to operate them. If adverse conditions exist for a short period of time, the jobber is often obliged to release the control of his business to some one else. A minimum investment is next in importance. He said: "Don't build monuments if you expect to make a success of your service station." Then he said consistent advertising was of greatest importance. Personal solicitation is often necessary to develop a business that will justify such a station.

Jobbers and Aviation

The jobbers' position in aviation was outlined in a meeting held the following day presided over by J. M. Cushman, president of the Iowa Petroleum Association. Franklin Moore, president of the Fairfax Air Corp. of Kansas City, gave a short discussion of the growth of aviation to show that is becoming a major factor in the list of oil consumers. The meeting was further popularized by the presence of Col. Arthur C. Goebel, president of the Goebel School of Aviation at Kansas City, who outlined his experience in his historic trip from California to the Hawaiian Islands. He was followed by W. J. Mackenzie, of the aeronautical branch of the United States Department of Commerce, who discussed the relation between the oil business and aviation. The question was repeatedly asked regarding the quality of the oil required by the present aviation motors and the three speakers were unanimous in the opinion that no set specifications could be referred to as ideal for the lubrication of these motors and that instead of the airplane manufacture, the jobber or the aviator attempting to outline such a set of specifications, it is preferable to trust to the judgment of reputable refiners regarding what is suitable. The idea conveyed might be expressed as "Buy by the trade mark and not specifications." George Allee, president of the Missouri Oil Men's Association, and S A. Wassum, president of the Nebraska Oil Men's Association, presided over the noon dinner meeting and the meeting in which the code of ethics was discussed, completing probably the most successful meeting ever held by the Big Four State Jobbers.

In addition to the program of papers and discussions, there was an outlay of station equipment and supplies which attracted the interest of the jobbers. All meetings were held in the President Hotel.

WEST TEXAS FIELDS

(Continued from Page 65)

2,488-94 feet and 2,508-20 feet, and an initial production first 12 hours on the pump of 50 bbls., and 52½ bbls. the next 24 hours.

Howard County

Continental Oil Co.'s No. 3 Kloh-Rumsey, located in Section 13, Block 33, Township 2s, had an initial production of 1,626 bbls. at 2,181-2,238 feet. Howard Oil Corp.'s No. 3 Kloh and others had an initial production of 1,000 bbls. at 2,250-80 feet. Schermerhorn Oil Co.'s No. 6 Dora Roberts was shot with 250 quarts from 2,467-2,610 feet and had an initial production of 60 bbls. Ward Oil Corp.'s No. 13 Roberts, located in Section 137, Block 29, W.&N.W.R.R. Survey, had an initial production of 237 bbls. at 1,330-80 feet. Its No. 14 Roberts, Section 137, Block 29, topped the pay at 1,368 feet, was drilled to a total depth of 1,386 feet and had an initial production of 175 bbls. Witherspoon Oil Co.'s No. 3 Kloh Rumsey, Section 3, Block 32, made 100 bbls. oil, 10 per cent water and b.s. at 2,280-2,442 feet.

Mitchell County

Gibson & Johnson's No. 1 Scott was dry and abandoned at 806 feet.

Loving County

Lockhart & Co.'s No. 1 Hazell, located in Section 84, Block 33, H.&T.C.R.R. Survey, had an initial production of 40 bbls. after having been shot with 100 quarts at 4,177-4,227 feet.

Pecos County

Humble Oil & Refining Co.'s No. 11 Smith, located in Section 36, Block 194, topped the pay at 1,430 feet, was drilled to a total depth of 1,560 feet and had an initial production of 351 bbls. Independent Oil & Gas Co.'s No. 3 McDonald, Section 46, Block 12, was dry and abandoned at 1,677 feet. McMan Oil & Gas Co.'s No. 5 Tippett had an initial production of 10 bbls. hourly at 1,337-1,400 feet. Mid-Kansas Oil & Gas Co.'s No. 6 Smith had an initial production of 15 bbls. at 1,205-1,335 feet. Gulf Production Co.'s No. 1 State-Hale was dry and abandoned at 1,695 feet. Moncrief's No. 1 University, located in Section 27, Block 18, was dry and abandoned at 2,098 feet. Perrin and others' No. 1 Eaton, located in Section 27, Block 39, T.C.R.R. Survey, topped the pay at 1,490 feet and had an initial production of 18,000,000 feet of gas. Shell Petroleum Corp. and Kirby Petroleum Corp.'s No. 1 University was dry and abandoned at 5,204 feet. Sun Oil Co.'s No. 2 University, Section 8, Block 17, was dry and abandoned at 1,715 feet. Sun Oil Co.'s No. 1 University-Carlson, Section 34, Block 18, was dry and abandoned at 2,244 feet. Taylor-Link Oil Co.'s No. 4 University, Section 31, Block 16, topped the pay at 1,605 feet, was drilled to a total depth of 1,626 feet and had an initial production of 200 bbls. Tidal Oil Co.'s No. 1 McDonald, Section 46, Block 12, was dry and abandoned at 1,735 feet.

Taylor County

Condor's No. 1 Brockerson was dry and abandoned at 2,504 feet. Dunnegan and Shell Petroleum Corp.'s No. 1 Davidson topped the pay at 2,389 feet, drilled to a total depth of 2,391 feet and had an initial production of 336 bbls.

Terrell County

Johnson & Weekley's No. 1 Jackson & Harmon was dry and abandoned at 4,101 feet.

Val Verde County

Dyar Brothers and others' No. 1 Wilson, Section 115, Block E, G.C.&S.F.R.R. Survey, was dry and abandoned at 3,598 feet.

Ward County

Gulf Production Co.'s No. 6 O'Brien, located 2,310 feet north and 330 feet east of Section 20, Block F, G.M.M.B.&A. Survey, topped the salt at 1,067 feet, topped the pay at 2,852 feet, drilled to a total depth of 3,050 feet and had an initial production of 180 bbls.

PIPE LINE RUNS
October 2 to October 9
Runs Through Trunk Lines

	Last period
Atlantic P. L. Co., Port Arthur, Tex.	38,000
Gulf P. L. Co., to coast via Ranger, Tex.	32,416
Humble P. L. Co., Comyn, Tex.	38,083
Humble P. L. Co., Ingleside, Tex.	44,227
Illinois P. L. Co., via Del Rio, Tex.	44,363
Magnolia P. L. Co., De Leon, Tex.	31,694
Pasotex P. L. Co., El Paso, Tex.	8,806
Shell P. L. Co., Healdton, Okla.	40,869
Shell P. L. Co., Houston, Tex.	19,568
The Texas Co., Houston, Tex.	34,420
Total	332,446
Tank Car Shipments	
Thomas & Brann, Grant City	175
Orient Co., McCamey, Tex.	109
American Pet. Co., Pyote, Tex.	6,320
Southern Crude O. P. Co., Wickett, Tex.	11,307
Total	17,911
Runs to West Texas Refineries	
Amarillo Prod. Co., Pyote, Tex.	off
Bluebonnett Ref. Co., Wickett, Tex.	1,090
Burford Ref. Co., Pecos, Tex.	4,396
Col-Tex Ref. Co., Colorado, Tex.	7,000
Cosden Ref. Co., Big Spring, Tex.	8,390
Great Western Ref. Co., Big Spring, Tex.	3,634
Humble O. & R. Co., McCamey, Tex.	5,128
Mid-Tex Ref. Co., Midland, Tex.	1,621
Tonkawa Ref. Co., Pyote, Tex.	1,705
Big Spring Ref. Co., Big Spring, Tex.	1,680
Richardson Ref. Co., Big Spring, Tex.	5,624
Wickett Ref. Co., Pyote, Tex.	175
Total	40,443

Summary

	Previous Week	Last Period
Pipe line runs through trunk lines	312,665	332,446
Tank car shipments	17,675	17,911
Runs to West Texas Refineries	35,873	40,443
Total daily distribution	366,213	390,800
Total daily production	361,252	368,047
Daily average from storage	4,961	22,753

PECOS COUNTY
Week ending October 15

Company, lease—	Wells	Prod.
M. H. Black:		
Fee	1	10
California Co.:		
Yates-lease 1	18	10,828
Smith-lease 1, Sec. 37	3	427
Smith-lease 1, Sec. 23	8	2,474
Smith-lease 1, Sec. 21	5	1,745
Smith-lease 2	3	115
Smith-lease 3	13	2,732
Smith	1	6
Tippett-lease 1	1	31
Continental Oil Co.:		
University-A	1	125
Cosby Drilling Co.:		
Smith	2	660
Dorn & McGee:		
Pecos Valley	1	33
Grayburg Oil Co.:		
Pecos River Bed	6	549
Salvage		360
Gulf Prod. Co.:		
All leases	40	16,609
Humble Oil & Refining Co.:		
Smith-A	11	2,256
Smith-B	7	1,067
Kirby Pet. Co.:		
Tippett	2	60
Kirby Pet. & Edson:		
Tippett	1	239
Marland Oil Co.:		
Yates-A	6	717
Yates-A Salvage		5,183
Mazda & Savoy:		
Smith	2	620
McCarty Oil Co.:		
Gray	1	11
Bennett	1	10
McMan Oil & Gas Co.:		
Smith-A	1	1,740
Smith-B	4	1,327
Smith-C	7	686
Tippett	3	315
Richardson	1	173
McMan & Marland:		
Yates	17	6,446
Mid-Kansas & Transcontinental Co.:		
Yates-A	28	22,092
Yates-B	27	7,523
Yates-C	11	8,743
Yates-D	7	8,601
Yates-E	3	878
Yates-F	4	888

Yates-G	3	1,302
Yates-H	10	9,351
Smith	5	1,892
Smith-Taylor	18	4,497
W. A. Moncrief:		
University	1	26
Landreth Prod. Co.:		
University	1	107
J.D. O'Mara:		
Butz	1	35
Pecos Valley Oil:		
Fee, Sec. 22, Blk. 26	2	44
Phillips Pet. Corp.:		
Monroe	2	180
Ramsey	3	951
Smith	3	660
Plymouth Pet. Corp.:		
Perry	1	20
Red Bank Oil Co.:		
Smith	5	481
Rowan-Tong & Independent:		
McDonald	1	134
Shell Pet. Co.:		
Tippe.t	11	2,941
Smith	11	1,482
Smith-B	1	667
Smith-D	4	832
Smith-E	1	17
Bower-University-C	1	167
Simms Oil Co.:		
Smith	7	7,276
Skelly Oil Co.:		
Tippett	2	233
Taylor-Link:		
University	2	298
Total Pecos Field	343	139,858

WINKLER COUNTY
Week ending October 15

Company, farm, sec. blk.—	Wells	Prod.
Amerada Pet. Corp:		
Cowden, 3, B-12	3	50
Atlantic O. P. Co.:		
Hendricks-A, 34 B-5	7	2,197
Hendricks-B, 44 26	6	686
Hendricks-D, 29 B-5	7	719
Hendricks-E, 41 B-5	6	970
Hendricks-G, 46 26	7	35
Hendricks-F, 40 26	12	907
Bankers Prod. Co.:		
Hendricks, 30 B-5	1	Off
V. T. Bolin:		
Brown- Altman, 4 B-5	1	4
California Co.:		
Hendricks, 29 B-5	7	740
Cranfill & Reynolds:		
Hendricks-A, 28 B-5	2	212
Hendricks-B, 35 B-5	1	86
Hendricks-G, 33 26	2	552
Hendricks-E, 32 26	2	119
Cranfill & Texon:		
Hutchings, 47 26	1	67
Culberson Bros.:		
Hendricks, 40 B-5	1	62
Eastland Oil Co.:		
Hendricks, 35 B-5	2	309
Hendricks-B, 46 26	1	148
Gulf Prod. Co.:		
Hendricks-A, 34 B-5	13	5,208
Hendricks-B, 45, 26	11	3,290
Hendricks-C, 40 B-5	6	738
Hendricks, 44 26	3	624
Cowden, 3 B-12	3	37
Humble Oil & Ref. Co.:		
Hendricks-A, 34 B-5	17	4,741
Hendricks-B, 29 B-5	6	1,766
Hendricks-C, 32 26	8	592
Hendricks-B, 39 26	3	260
Hendricks-C, 10 B-12	13	8,175
Wal.on, 48 26	1	103
Independent Oil & Gas Co.:		
Hendricks-A, 34 B-5	7	1,291
Howe-B, 44 26	3	160
McCabe, 36 B-5	2	201
Vardeman-B, 41 B-5	6	416
Lion Oil Company:		
Hendricks-A, 41 B-5	11	2,110
Hendricks-B, 34 B-5	13	3,106
Hendricks-C, 45, 26	14	5,270
Hendricks-D, 44 26	1	105
Magnolia Pet. Co.:		
Hendricks, 29, B-5	8	452
Marland Oil Co.:		
Hendricks, 33 26	4	599
Hendricks-A, 29 26	2	102
Hendricks-B, 34 26	2	18
May Prod. Co.:		
Hendricks, 34 26	1	15
American Maracaibo:		
Hendricks-A, 28 B-5	1	20
Hendricks-B, 28 B-5	1	122
Mining & Engineering:		
Hendricks, 10 B-12	1	Off
Murchison & Cranfill:		
Hendricks-A, 35 B-5	3	340
Hendricks-B, 35 B-5	3	458
Hendricks-C, 35 B-5	1	Off
Hendricks-H, 35 B-5	1	760
Hendricks-I, 34, 26	2	105
Republic Prod. Co.:		
Hendricks-A, 45 26	12	1,262
Hendricks-B, 41 B-5	5	77
Prairie Oil & Gas Co.:		
Hendricks, 40 26	6	1,631
Cowden, 3 B-12	6	3,548
Shell Pet. Corp.:		
Hendricks-A, 45 26	5	581
Hendricks-B, 29 B-5	5	881
Hendricks-C, 29 B-5	7	463
Hendricks-D, 41 B-5	3	122
Hendricks-E, 40 B-5	3	392
Hendricks-F, 46 26	6	272
Hendricks-G, 39 26	1	70
Shell-Texas Company:		
Cowden-A, 3 B-12	6	1,292
Hendricks, 45 26	6	1,731
Hendricks-A, 29 B-5	7	1,212
Hendricks-B, 40 26	4	283
Hendricks-C, 40 26	6	1,504
Hendricks-D, 40 26	6	278
Hendricks-E, 39 26	2	131
Skelly Oil Co.:		
Hendricks, 40 26	12	4,796
Hendricks-B, 10, B-12	2	18
Hendricks-C, 39 26	1	87
Southern Crude O. P. Co.:		
T-67 Hendricks-A, 42 B-5	3	132
T-67 Hendricks-3-A, 4 B-12	4	400
T-67 Hendricks-B, 44 26	5	378
T-67 Hendricks-3-B, 33 26	4	290
T-67 Hendricks-C, 33 B-5	5	580
T-67 Hendricks-2-D, 27 26	5	1,085
T-67 Hendricks-E, 42 B-5	4	139
T-67 Hendricks-F, 33 B-5	5	674
T-68 Hendricks-3-A, 35 B-5	3	124
T-68 Hendricks-B, 46 26	2	191
T-88 Hendricks-A, 44 26	6	800
T-88 Hendricks-B, 4 B-12	4	190
T-88 Hendricks-C, 28 B-5	8	921
T-88 Hendricks-D, 4 B-12	6	2,650
T-88 Hendricks-H, 28 B-5	6	1,224
T-88 Hendricks-I, 20 B-5	7	511
T-88 Hendricks-J, 30 B-5	5	341
T-88 Hendricks-K, 41 26	7	1,105
T-88 Hendricks-L, 4 B-12	4	547
T-88 Hendricks-M, 33 26	33	16,408
T-88 Hendricks-N, 28 26	7	954
T-88 Hendricks-O, 28 26	4	511
T-88 Hendricks-P, 28 26	2	317
T-88 Hendricks-Q, 27 26	2	935
T-88 Hendricks-R, 27 26	3	867
T-88 Hendricks-S, 34 26	4	1,474
T-88 Hendricks-T, 34 26	7	1,022
T-88 Hendricks-U, 41 26	10	1,267
T-88 Hendricks-V, 29 26	1	81
T-88 Hendricks-W, 5 B-12	1	262
T-88 Hendricks-CX, 21 26	4	1,274
T-89 Hendricks-A, 35 B-5	3	210
T-89 Hendricks-B, 35 B-5	2	341
T-89 Hendricks-C, 35 B-5	3	540
T-89 Hendricks-D, 35 B-5	1	186
T-89 Hendricks-A, 40 B-5	3	123
T-89 Hendricks-F, 40 B-5	2	283
T-89 Hendricks-H, 46 26	2	187
T-89 Hendricks-I, 10 B-12	2	78
T-89 Hendricks-J, 9 B-12	8	1,231
T-89 Hendricks-L, 15 B-12	2	1,056
T-90 Hutchings, 47 26	1	188
Texon Oil & Land Co.:		
Hendricks-A, 41 B-5	6	201
Hendricks-B, 45 26	6	1,986
Winkler O. P. Co.:		
Hendricks, 33 26	1	Off
Total Hendricks Pool	564	113,992
LECK AREA		
Atlantic Kesslar & Logan:		
Leck, 3 74	2	242
Amerada Pet. Corp.:		
Leck, 3 74	2	316
Empire Gas & Fuel Co.:		
Daugherty, 3 74	3	181
Magnolia Pet. Co.:		
Scarborough, 1 C-22	2	194
Gulf Prod. Co.:		
Scarborough, 1 C-22	1	54
Daugherty, 3 74	2	603
Shell-Liano Oil Co.:		
Daugherty, 1 C-22	3	297
Shell-Danciger:		
Daugherty, 3 74	2	94
Skelly Oil Co.:		
Daugherty, 22 16	4	1,504
Tidal Oil Company:		
Scarborough, 1 C-22	1	136
Prairie Oil & Gas Co.:		
Leck, 16 74	1	384
Daugherty, 3 74	1	156
Scarborough, 1 C-22	1	55
Warner-Quinlan:		
Leck, 3 74	1	396
Total Leck Pool	26	4,612
O'Brien Pool		
Marland Oil Co.:		
Mor on-A, 10 B-12	1	163
Morton-B, 10 B-12	2	109
Wentz Oil Corp.:		
Morton, 10 B-12	1	160
Simms Oil Co.:		
Sealy, 50 F	1	30
Richardson et al:		
Stockton, 50 F	1	98
Total O'Brien Pool	6	560
Total Winkler County	596	119,164

H. E. SADLER, PIONEER KANSAS OIL MAN, DEAD

Holmes Elias Sadler, who died in his home in Memphis, Tenn., on Thursday, October 10, was one of the pioneer oil operators in the Mid-Continent area and he had a wide acquaintance among the men who developed the early fields in Kansas and Oklahoma. His entrance into the oil business followed many years in the active practice of law. He was the father of E. J. Sadler, vice president in charge of production of the Standard Oil Co. (New Jersey).

Mr. Sadler was born in Brockport, N. Y., May 19, 1851. He prepared for college at Andover, Mass., and graduated from Yale University in 1873. Later he entered Albany Law School, from which he graduated in 1876. Then he returned to New Haven, Conn., to engage in research in the Sheffield Scientific School under the late Prof. Benjamin Silliman. About 1880, Mr. Sadler went to Emporia, Kans., where he engaged in the practice of law for 10 years. During this period he was influential in forming the tax laws of Kansas.

In 1890 Mr. Sadler moved to Sedan, Kans., where he continued to reside for 17 years. There he became associated with William Geiser, who previously had operated in oil fields of Pennsylvania and Ohio. At first Mr. Sadler served as attorney for Mr. Geiser, but soon he joined the latter in the production of oil in Chautauqua County, Kansas, where the first really profitable commercial production in the Mid-Continent Field was developed. This business association continued until the death of Mr. Geiser. Failing health moved Mr. Sadler to retire from active work in 1913. He moved to Memphis in 1917.

In 1875 Mr. Sadler married Miss Mary Everit Coley, in New Haven. Besides his wife, Mr. Sadler leaves two daughters, both residing in Memphis, and one son, E. J. Sadler.

Mr. Sadler's interest in the oil industry never flagged. A few days before his death he talked with his son, who was in Memphis for a short time, and in the course of the conversation he asked many questions about conditions in the business and about his old friends. He was a personal friend of the late P. C. Boyle, founder of The Oil and Gas Journal and he was a subscriber for that publication from the beginning until his death. Mr. Boyle was a frequent visitor in the Sadler home.

In accordance with written directions which Mr. Sadler himself prepared, the funeral service, conducted Sunday, October 13, was entirely private. Interment was in Forest Hills Cemetery in Memphis.

POLAND OIL INCORPORATES

CHICAGO, Oct. 19.—The Poland Oil Co. has been incorporated at Hillsboro, Ill., with a capital stock of $50,000 preferred and $100,000 common stock. The incorporators are C. P. and E. D. Poland, S. L. Maddox and M. J. Brown. The company is licensed to deal in petroleum products and operate bulk and filling stations. The Poland Oil Co. has been an extensive St. Louis distributor for years.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 65)

Gulf Prod. Co.'s No. 67 McElroy, 2,102 ft. S and 2,640 ft. W of NE cor., Sec. 201, Blk. F, C.C.S.D.& R.G.N.G.R.R. ..... Shut down 2,965 ft.; swabbed 55 bbls. oil.

Gulf Prod. Co.'s No. 68 McElroy, 771 ft. S of NE cor. on E line of its lease in Sec. 200, Blk. F, C.C. S.D.&R.G.N.G. ..... Top salt 1,175 ft.; shut down 2,988 ft.; pumped 237 bbls. in 15 hrs.

Gulf Prod. Co.'s No. 69 McElroy, 1,442 ft. S and 330 ft. E of NW cor. Gulf's lease, Sec. 185, Blk. F, C.C.S.D. &R.G.N.G.R.R. Sur. ..... Location.

Gulf Prod. Co.'s No. 70 McElroy, 1,442 ft. S and 2,970 ft. W of NE cor. of Gulf's lease out of Sec. 201, Blk. 5, C.C.S.D.&R.G.N.G.R.R. Sur. ..... Location.

Humble O. & R. Co.'s No. 2-D University, 990 ft. from W and 330 ft. from S of NW Sec. 34, Blk. 30..... Drlg. 780 ft.

Simms-Atlantic's No. 2-F University, Sec. 45, Blk. 30, 2,310 ft. from N, 330 ft. from E, University ..... Top salt 1,020 ft.; drlg. 1,325 ft.

The Texas Company's No. 3 University, 330 ft. N and E of SW of N half Sec. 46, Blk. 30, University Land.. Drlg. 340 ft.

The Texas Company's No. 2 University-Beasly, 330 ft. S and E of NW of S half Sec. 46, Blk. 30, University Land ..... Drlg. 710 ft.

Tidal Oil Co.'s No. 2 University-D, 330 ft. S and W of NE cor. NW of SW Sec. 34, Blk. 30, University Land.. Drlg. 960 ft.

T. P. Coal & Oil Co.'s No. 2 University, 2,310 ft. from S, 1,650 ft. from W, Sec. 34, Blk. 30, University Land.. Drlg. 2,830 ft.

CROCKETT COUNTY

California Co.'s No. 3 Powell, Lease No. 1, 1,056 ft. N and 495 ft. E of SW cor., Sec. 62, Blk. BB, G.C. &S.F. ..... Shut down 2,537 ft.

Eppenaur et al's No. 2 Noelke, 500 ft. N and 1,250 ft. E of SE cor., Sec. 64, Blk. 1, I.&G.N.R.R. Sur. ..... Top salt 720 ft.; show oil 1,655 ft.; fishing 2,380 ft.

Lewis & Daniels' No. 1 Pecos River Bed, 19 yards S and 37 degrees E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur... Shut down 1,355 ft.

W. W. Donnelly & Young's No. 1 Middlebuster, C Sec. 11, Blk. 9, D.&S.E. Sur. ..... 7,000,000 ft. gas at 1,663 ft.; shut down 1,755 ft.

Moncrief's No. 3 Todd, 330 ft. from S and E, Sec. 29, Blk. VV ..... Shut down 1,230 ft.

T. P. Coal & Oil Co.'s No. 1 Shannon, 330 ft. from S and W of Sec. 44, T.C.R.R. Sur. ..... Location.

CULBERSON COUNTY

Grisham & Hunter Oil Corp.'s No. 1 fee, 330 ft. from S and W of Sec. 14, Blk. 59, T.&P. ..... Drlg. 875 ft., anhydrite.

Grisham-Hunter's No. 3 Seay, 330 ft. from S line, 330 ft. from W line, Sec. 16, Blk. 59, Twp. 7 ..... Moving in machinery.

Grisham & Hunter's No. 1 Seay, 330 ft. from S and W of Sec. 16, Blk. 59, Twp. 7, T.&P.R.R. Sur. ..... Location.

Hickey & Silver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W. Sec. 20, Blk. 82 ..... Small show oil 1,331 ft.; shut down 2,260 ft.; hole full water; elev. 3,874 ft.; shut down for 30 days.

West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ..... Slight show oil 740 ft.; shut down 825 ft.; repairing engine.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E. Sec. 1, Blk. 97, Public School Land ..... Rainbow 1,056 ft.; 300 ft. sulphur water 1,725 ft.; oil show 2,528 ft.; hole full sulphur water; running 6-in. casing; shut down 3,508 ft.

ECTOR COUNTY

Anderson's No. 1 fee, 1,320 ft. E along N line, Sec. 19, and 150 ft. N at right angles with line, Sec. 18, Blk. B-16, Public School Land ..... Moving in material.

R. R. Penn et al's No. 1 Kloh-Rumsey, 330 ft. N and 2,640 ft. E of SW, Sec. 7, Blk. 44, Twp. 3s, T.&P. R.R. Sur. ..... Top salt 1,230 ft.; top pay 3,718 ft.; total depth 3,744 ft.; flowing 354 bbls. daily.

EL PASO COUNTY

Laytex's No. 1 Malone, 2,200 ft. SW and NW, Sec. 46, J. M. Day Sur. ..... Shut down 1,300 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlow, Sec. 60, V-8, J. C. Clift Sur. ..... Shut down 3,000 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 Barrett, Sec. 191, Blk. 1, 330 ft. from S and W of NE, B.B.B.&C.Ry. ..... Ran 10-in. casing at 1,665 ft.

Cranfill & Reynolds' No. 1 Texas Cement, Sec. 10, 330 ft. from N and W of most westerly NW cor. ..... Drlg. 2,730 ft.

Landreth Prod. Corp.'s No. 2 Cooper, 330 ft. S and W of NE cor. Sec. 116, Blk. 1, H.&T.C.R.R. Sur. ..... Junking hole at 300 ft.

Magnolia Pet. Co.'s No. 1 Lee, Sec. 357, 2,310 ft. from N and 4,286 ft. from W ..... Drlg. 3,363 ft.

Midwest Oil Co.'s No. 1 Steele, 660 ft. from S, 440 ft. from W, Sec. 210, Blk. 1 ..... Fishing 3,100 ft.; show oil 2,940-45 ft.

H. Riley's No. 1 J. H. Veatch, 250 ft. S and 990 ft. E of NW cor., Sec. 4, English Sur. ..... Shut down 3,300 ft.

Roeser-Pendleton and Amerada's No. 1 First Nat'l Bank of Waco, 660 ft. N and 600 ft. W of SE cor. NE of Sec. 204, B.B.B.&C. Sur. ..... Rigging up.

GAINES COUNTY

Louisiana O. & R. Co.'s No. 1 Ralph, 1,320 ft. from S and W of Sec. 7, Blk. A-28, Public School Land .... Rig.

GARZA COUNTY

Bell Thompson's No. 1 Tuffing, 330 ft. from S, 2,310 ft. from E, Sec. 10, Blk. 6, H.&G.N. ..... Shut down 2,610 ft.

GLASSCOCK COUNTY

The California Co.'s No. 3 Currie, 990 ft. S and 2,310 ft. W of NE cor., Sec. 219, Blk. 29, W.&N.W.R.R. Sur.. Coring at 2,016 ft.

California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Rig.
Chal Daniel et al's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.&P. Sur... Shut down 1,120 ft.
Fuhrman's No. 1 McDowell, 330 ft. from S and 1,650 ft. from E Sec. 24, Blk. 34, Twp. 2s, T.&P. ..... Top salt 1,065 ft.; running 10-in. casing 1,865 ft.
Glasscock et al's No. 1 Edwards, 330 ft. from S, 1,650 ft. from E, Sec. 18, Blk. 33, Twp. 2s, T.&P.R.R. Sur... Shut down 160 ft.
Kirby Pet. Co.'s No. 1 Baker, 330 ft. from N and W lines of Sec. 23, Blk. 33, Twp. 2s, T.P. Sur..... Top pay 2,090 ft.; increase in oil at 2,150 and 2,235 ft.; shut down 2,285 ft.; swabbed 400 bbls. in 11 hrs.
Kirby Pet. Co.'s No. 2 Phillips, 330 ft. from N and W, Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Total depth 2,300 ft.; shot 206 qts. 2,160-65 ft.; pumped 671 bbls. in 24 hrs.
Landreth et al's No. 1 Huston, Sec. 29, Blk. 35, Twp. 2s, 330 ft. from S, 2,310 ft. from E, T.&P. Sur. ..... Drlg. 2,980 ft., water sand.
Lion O. & R. Co.'s No. 2 Coffee, 330 ft. from N and 990 ft. from E of Sec. 22, Blk. 33, Twp. 2s ..... Drlg. 1,290 ft.
Schermerhorn Oil Co.'s No. 2 Phillips, 330 ft. from N and 990 ft. from E of Sec. 23, Blk. 33, Twp. 2s..... Drlg. 2,080 ft.
Shell Pet. Corp.'s No. 1 Coffee, 330 ft. from S and 1,650 ft. from E of Section 15, Blk. 33, Twp. 2s ..... Drlg. 2,078 ft.
Shell Pet. Corp.'s No. 1-B Kloh-Rumsey, 330 ft. from N and W of Sec. 11, Blk. 33, Twp. 3s, T.&P. ..... Shut down 272 ft.
Simms Oil Co.'s No. 1 Coffee, 330 ft. from N and 1,650 ft. from E of Sec. 22, Blk. 33, Twp. 2s, T.&P. ..... Rigging up.
E. L. Smith Oil Co.'s No. 2 Coffee, 330 ft. from S and 990 ft. from E of Sec. 15, Blk. 33, Twp. 2s, T.&P.... Rig.
E. L. Smith's No. 1 Coffee, 330 ft. from S and E of Sec. 15, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 2,090 ft.
Sun Oil Co.'s No. 2 Phillips, 330 ft. from S and W lines Sec. 14, Blk. 33, Twp. 2s, T.P. Sur. ..... Top pay 2,150 ft.; total depth 2,260 ft.; swabbing 52 bbls. hr.
Sun Oil Co.'s No. 3 Phillips, 2,310 ft. from E and 330 ft. from S of Sec. 14, Blk. 33, Twp. 2s, T.&P. ..... Drlg. 1,245 ft.
Sun Oil Co.'s No. 4 Phillips, 330 ft. N and 990 ft. W of SE cor. Sec. 14, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Rigging up.
Texas State Oil Co.'s No. 1 Coffey, 330 ft. from S and 990 ft. from E, Sec. 19, Blk. 34, Twp. 2s ..... Shut down 2,461 ft.
World Oil Co.'s No. 2-C McDowell, Sec. 21, Blk. 34, Twp. 2s, 330 ft. S and 2,310 ft. E of NW cor..... Shut down for orders.

HOWARD COUNTY

American Maracaibo Co.'s No. 3-A Settles, Sec. 6, Blk. 32, Twp. 2s, 777 ft. from N, 990 ft. from W, T.&P. R.R. Sur. ..... Drlg. 1,968 ft.
Continental Oil Co.'s No. 6-C Chalk, 1,520 ft. from N and 2,440 ft. from E, Sec. 140, Blk. 29, W.&N.W. R.R. Sur. ..... Shut down 1,680 ft.
Continental Oil Co.'s No. 1 Kloh-Rumsey, 990 ft. S and 330 ft. W NE cor., Sec. 13, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Drlg. 2,282 ft.; top pay 2,202 ft.; swabbed 136 bbls. in 6 hrs.
Continental Oil Co.'s No. 2 Kloh-Rumsey, 2,310 ft. S, 330 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 2,077 ft.
Continental Oil Co.'s No. 3 Kloh-Rumsey, 1,650 ft. S and 330 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P. Sur. ..... Top pay 2,181 ft.; total depth 2,238 ft.; pumped 1,626 bbls. first 24 hrs.
Continental Oil Co.'s No. 4 Kloh-Rumsey, 2,310 ft. S and 1,650 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Drlg. 1,650 ft.
Continental Oil Co.'s No. 5 Kloh-Rumsey, 2,310 ft. S and 990 ft. W of NE cor. Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 185 ft.
Continental Oil Co.'s No. 9-A Settles, 220 ft. from N, 660 ft. from E, Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 2,375 ft.
Continental Oil Co.'s No. 3 Clay-F, 250 ft. S and 660 ft. W of NE cor., Sec 138, Blk. 129, W.&N.W.R.R. Sur... Shut down 2,675 ft. with show oil 2,595-2,675 ft.
Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,456 ft.
Godley Oil Co.'s No. 2 Hooks, 1,980 ft. S and 200 ft. E of NW cor. Sec. 140, Blk. 29, W.&N.W.R.R. Sur. ..... Shut down 1,740 ft.
Group No. 1 & Continental Oil Co.'s No. 7-A Settles, 1,650 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Drlg. 1,901 ft.
Group No. 1 & Continental Oil Co.'s No. 8-A Settles, 990 ft. N and 2,310 ft. W of SE cor. Sec. 135, Blk. 29, W.&N.W.R.R. Sur. ..... Rotary rig.
Humble's No. 5 Clay, Sec. 138, Blk. 29, 330 ft. from S, 990 ft. from W ..... Show oil 1,820 ft.; shut down 1,870 ft.; swabbed 145 bbls. in 24 hrs.
Gulf Prod. Co.'s No. 8 Clay, 330 ft. S and 1,650 ft. W of NE cor. W half Sec. 155, Blk. 29, W.&N.W.R.R. Sur... Cleaning out 1,857 ft.; swabbed 107 bbls. in 9 hrs.
Magnolia Pet. Co.'s No. 13 Dora Roberts, 2,440 ft. N and 1,650 ft. E of SW cor. Sec. 136, Blk. 29, W.&N.W. Sur. ..... Shut down 2,927 ft.; set 8¼-in. casing.
Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ..... Shut down 1,220 ft.
Merrick & Lamb's No. 9 Clay, 660 ft. from S and 360 ft. from E, Sec. 126, Blk. 29 ..... Show oil 1,745-60 ft.; total depth 3,230 ft.; preparing to pump; shot 300 qts. from 3,083-3,164 ft.; bridged back to 2,475 ft.; shot 100 qts. from 2,475-2,500 ft.; cleaning out and testing; est. 45-bbl. well.
Moody Oil Corp.'s No. 29-B, Sec. 137, Blk. 29, 330 ft. from N and 1,650 ft. from W ..... Fishing 885 ft.
Moody Oil Corp.'s No. 18-B Roberts, 280 ft. S and 2,280 ft. E NW cor. Sec. 137, Blk. 29, W.&N.W.R.R. ..... Top pay 1,881 ft.; total depth 1,897 ft.; 200 ft. oil in hole.
Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.
Moody Oil Corp.'s No. 19-E Roberts, 190 ft. from N and 2,310 ft. from E, Sec. 136, Blk. 29 ..... Top pay 1,325 ft.; total depth 1,413 ft.; 250 ft. oil in hole; to test.
Moody Oil Corp.'s No. 20-E Roberts, 1,650 ft. S, 2,310 ft. W of NE Sec. 136, Blk. 29, W.&N.W.R.R. Sur..... Elevation 2,787 ft.; spudding.
Plymouth Oil Co.'s No. 4 Abrams, 330 ft. from N and 1,650 ft. from W, Sec. 5, Blk. 32, Twp. 2s ..... Top pay 2,480 ft.; shut down 2,519 ft.; plugged back 2,505 ft.; pumped 20 bbls., 15 per cent water, in 24 hrs.; may shoot.
Plymouth Oil Co.'s No. 5 Abrams, Sec. 5, Blk. 32, Twp. 2s, 1,650 ft. from N, 330 ft. from W, T.&P..... Top pay 2,205 ft.; total depth 2,281 ft.; to test.
Plymouth Oil Co.'s No. 6 Abrams, Sec. 5, Blk. 32, Twp. 2s, 1,650 ft. from S, 330 ft. from W, T.&P..... Drlg. 1,220 ft.
Plymouth Oil Co.'s No. 7 Abrams, 2,310 ft. from N, 330 ft. from W, Sec. 5, Blk. 32, Twp. 2s, T.&P. Sur..... Drlg. 260 ft.
Pure Oil Co.'s No. 1-A Scrivner, 990 ft. from W and 330 ft. from S of Sec. 4, Blk. 32, Twp. 2s..... Location.
Pure Oil Co.'s No. 2 Scrivner, 330 ft. from S and 1,650 ft. from W, Sec. 4, Blk. 32, Twp. 2s, T.P.R.R. Sur... Location.
Schermerhorn Oil Co.'s No. 1 Abrams, 2,310 ft. from S and 1,650 ft. from W, Sec. 13, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 2,050 ft.
Shell Pet. Corp.'s No. 2 Abrams, Sec. 13, Blk. 33, Twp. 2s, 2,310 ft. from S, 990 ft. from E, T.&P. ..... Drlg. 2,098 ft.
Shell Pet. Corp.'s No. 2-A Roberts, 1,320 ft. from N. 1,650 ft. from W, Sec. 156, Blk. 29, W.&N.W.R.R. Sur..... Top pay 2,957 ft.; drlg. 2,987 ft.
Simms Oil Co.'s No. 1 Clay, 330 ft. from S and 1,650 ft. from W, Sec. 127, Blk. 29, W.&N.W.R.R. Sur. ..... Show oil 2,490 ft.; top pay 2,910 ft.; total depth 2,924 ft.; 1,200 ft. oil in hole.
Simms Oil Co.'s No. 2 Clay, Sec. 127, Blk. 29, 300 ft. from S and 2,340 ft. from W ..... Location.
Ward Oil Co.'s No. 15 Roberts, 2,430 ft. from S and W, Sec. 137, Blk. 29 ..... Drlg. 255 ft.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ..... Drlg. 2,518 ft.
George Richardson's No. 1 Paxton, 2,640 ft. from N and W, Sec. 9, Blk. 16 ..... Shut down 205 ft.
Western States Oil Co.'s No. 1 Moore, C SE Sec. 16, Blk. 71, Twp. 6, T.&P. Sur. ..... Shut down 2,635 ft.
Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Fishing 3,140 ft.

IRION COUNTY

Banner's No. 2 Nutt, Subdivision 5, 150 ft. from N and E of W half Gonzales County School Lands ..... Location.
Brown & Fox's No. 2 Tankersley, 160 ft. from N and 500 ft. from E lines of S half of Sec. 712, F. Willig Sur. ..... Location.
Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,085 ft.
Carl Cromwell's No. 1 Nutt, 150 ft. from N, 1,161 ft. from W. Subd. 6, Gonzales County School Land ..... Plugging back to 1,472 ft.; pumped 40 bbls. in 24 hrs.
Carl Cromwell's No. 1 Tankersley, 2,490 ft. from S and E, Sec. 1,219, T.C.R.R. Sur. ..... Rigging up.
Dennys & Andrews' No. 1 Tankersley, 2,660 ft. from W, 600 ft. from S of Sec. 4, H. N. Wallace Sur. ..... Location.
Fox & Miller's No. 1 Tankersley, 150 ft. from S, 1,250 ft. from W, Sec. 711, I. G. Resig. ..... Preparing to plug and abandon 1,442 ft.
Kimbrough & Flinchbaugh's No. 1 Tankersley, 160 ft. S and 200 ft. W of NE cor. S half, Sec. 712, Ford Willig Sur. ..... Show oil 1,313-29 ft.; total depth 1,335 ft.; averaging 60 bbl. daily 37 degrees gravity oil; shut down for storage.
Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE Sec. 19, Blk. 7, H.&T.C. Sur. ..... Show gas 7,656 ft.; set 4½-in. casing 7,550 ft.; drlg. 7,694 ft.
Simms Oil Co.'s No. 1 Carter, Sec. 87, Blk. 1, 330 ft. from N and E, H.&T.C.R.R. Sur. ..... Oil show 1,246 ft.; total depth 1,252 ft.
J. A. Starkweather's No. 1 Lindley, Sec. 1,160½ ,900 ft. from S, 150 ft. from E, H.&T.C. Sur. on E ..... Ran 10-inch casing at 860 ft.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Drlg. 4,500 ft.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means, 1,622 ft. N line, 600 ft. W line, Sec. 345, H.&T.C. Sur. ..... Show gas 3,271 ft.; fresh water 3,000-05 ft.; underreaming 5 3/16-in. casing; shut down 4,005 ft.; 600 ft. fresh water 4,000-26 ft.

JONES COUNTY

J. H. Adsit et al's No. 1 Swenson, C of NE of SE, Sec. 192, B.B.B.&C. Sur. ..... Drlg. 2,100 ft.
Cosden-Herbert et al's No. 3 Bickley, 330 ft. N and W of SE cor. of S half NW, Sec. 50, Blk. 18 ..... Rig.
Cranfill-Reynold's No. 1 Stevens, 990 ft. from N and 3,630 ft. from W of John McMullen Survey 337 ..... Spudding.
Sedgwick O. & G. Co.'s No. 1 Morrison, 300 ft. from S and 1,320 ft. from W of Sec. 9, Blk. 1, T.&N.O. ..... Underreaming 5-in. casing 2,830 ft.
Shabeen et al's No. 1 King ..... Drlg. 1,895 ft.

KENT COUNTY

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H, H.&T.B. ..... Fishing 300 ft.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 700 ft. from N and W line of F. Lotta Sur. ..... Shut down 800 ft.
McLean & Jamison's No. 1 Cannon, 1,940 ft. N and 300 ft. W of SE cor. Robert Cochran Sur. ..... Shut down 1,504 ft.

LOVING COUNTY

Humble Oil & Ref. Co.'s No. 1 Kloh, 2,640 ft. N and W Sec. 35, Blk. 55, Twp. 2, T.&P.R.R. Sur. ..... Underreaming at 1,120 ft.; drlg. 1,540 ft.
Independent O. & G. Co.'s No. 1 Wheat, 330 ft. each way from W cor. of Sec. 85, Blk. 1, W.&N.W. ..... Moving in material.
Lockhart Co.'s No. 3 Allen, 330 ft. from NE, 1,650 ft. from NW, Sec. 82, Blk. 33, H.&T.C. ..... Drlg. 450 ft.
Lockhart & Co.'s No. 3 Hubbard, 330 ft. from NE and SE, Sec. 83, Blk. 33, H.&T.C. ..... Top salt 775 ft.; drlg. 3,250 ft.
Lockhart & Co.'s No. 4 Hubbard, 1,660 ft. NE, 330 ft. NW, Sec. 33, Blk. 33, H.&T.C. ..... Cem. 10-in. casing 690 ft.; drlg. 2,500 ft.

LYNN COUNTY

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. ..... Shut down 190 ft. for casing.
George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Top salt 2,140 ft.; oil show 1,580-90 ft.; shut down 4,740 ft.; repairing rig.

MENARD COUNTY

I. C. Barnett's No. 2 Callan, Sec. 1, 1,050 ft. from S, 1,190 ft. W ..... Drlg. 603 ft.

MITCHELL COUNTY

Gibson & Johnson's No. 2 Scott, 150 ft. N and 2,490 ft. W of SE cor. Sec. 7, Blk. 19, Lavaca Navigation Co. ..... Spudding.
Seiger's No. 1 Scott, C of NE of SW, Sec. 36, Blk. 17, S.P.R.R. Sur. ..... Shut down 730 ft.
Teas & Wheeler's No. 1 Radford, 1,320 ft. N and W of Sec. 1, Blk. 27, T.&P. Sur. ..... Shut down 4,310 ft.

NOLAN COUNTY

Gibson & Johnson's No. 1 Bond, 1,320 ft. from N and 1,980 ft. from E of Sec. 42, Blk. 20, T.&P. ..... To underream casing; total depth 1,215 ft.
Phillips Pet. Co.'s No. 1 Plunkett, 330 ft. N and W of SE cor. NW, Sec. 66, Blk. 23, T.&P. Sur. ..... Hole full sulphur water 3,685 ft.; shut down 4,105 ft.

PECOS COUNTY

Anderson & Pritchard's No. 1 Wright, 330 ft. S and E of NW cor. Sec. 9, Blk. 131, T.&St.L.R.R. Sur. ..... Location.
Anna Bell Oil Co.'s No. 1 Hollingsworth, 150 ft. N and W of C Sec. 24, Blk. 11, H.&G.N.R.R. Sur. ..... Location.
California Co.'s No. 3 Smith, Lease No. 5, Sec. 16, Blk. 194, 337 ft. from S and 166 ft. from E, G.C. &S.F. Sur. ..... Drlg. 1,100 ft.
California Co.'s No. 4 Smith lease No. 1, 1,018 ft. from N and 330 ft. from E. Sec. 37, Blk. 194, G.C.&S.F. ... Shut down 1,313 ft.
California Co.'s No. 5 Smith, Lease No. 1, 330 ft. from N, 2,405 ft. from W. Sec. 21, Blk. 194, G.C.&S.F. ..... Top pay 1,316 ft.; shut down 1,421 ft.; flowed 876 bbls. in 7 hrs.
California Co.'s No. 2 Tippett, 2,016 ft. from S and 1,040 ft. from E of Sec. 2, D.F. Robertson Sur. ..... Location.
California Co.'s No. 1 University-Landrum, Sec. 12, Blk. 18, 330 ft. from S. 1,065 ft. from E, University Land.. Shut down 1,700 ft.; est. 6,000,000 ft. wet gas from 1,613-25 ft.; sprayed 20 bbls. oil per day; top pay 1,669 ft.; averaged 150 bbls. daily before being shut in.
Continental Oil Co.'s No. 2 University, 330 ft. S and 1,680 ft. E of NW cor. of Sec. 6, Blk. 17, University Land ..... Cellar.

Continental Oil Co.'s No. 3 University, 330 ft. S and 2,371 ft. E of NW cor. Sec. 6, Blk. 17, University Land	Location.
Continental Oil Co.'s No. 4 University, 330 ft. S and E of NW cor. of Sec. 6, Blk. 17, University	Cellar.
Continental Oil Co.'s No. 5 University, 330 ft. S and 1,020 ft. E of NW cor. Sec. 6, Blk. 17, University Land	Cellar.
Continental Oil Co.'s No. 6 University, 330 ft. S and 3,031 ft. E of NW cor. of Sec. 6, Blk. 17, University Land	Cellar.
Condor Oil Co.'s No. 1 Wangerin estate, 150 ft. S and W of NE cor. Sec. 52, Blk. 11, H.&G.N.R.R. Sur.	Top salt 780 ft.; drlg. 860 ft.
Corzelius Bros. et al's No. 1 Cordova, 2,490 ft. from N and 1,515 ft. from W Sec. 29, Blk. 11, H.&G.N.R.R. Sur.	Drlg. 105 ft.
Cosby Drlg. Co.'s No. 1 Fort Stockton Land Co., 330 ft. from N and E of Sec. 34, Blk. 11, H.&G.N.	Top salt 1,140 ft.; drlg. 1,190 ft.
Cosden Oil Co.'s No. 1 McDonald, 350 ft. from N and E of Sec. 1, H.E.&W.T.	Having motor repaired at 110 ft.
Cowboy Evans' No. 1 Pecos Valley, 2,310 ft. from NW line, 990 ft. from SW line of Sec. 36, Blk. 3, H.&T.C. R.R. Sur.	Top salt 1,215 ft.; shut down 1,604 ft.; top pay 1,556 ft.; flowed 10 bbls. after standing 4 hrs.
Cranfill & Reynolds' No. 1 White, 330 ft. from S and W Sec. 104, Blk. 11	Rig.
Ditman Drlg. Co. et al's No. 1 Cunningham, 330 ft. from N and E of Sec. 34, Blk. 11, H.&G.N.	Location.
Dixie Oil Co.'s No. 1 McKinzie, 3,300 ft. from N and 2,025 ft. from W of Sec. 15, Blk. 604, G.C.&S.F.	Location.
Gibson-Johnson's No. 1 Grace, 330 ft. N, 990 ft. from E, Sec. 3, Blk. 179	Show oil 1,795-1,820 ft.; drlg. 2,045 ft.
Gulf Prod. Co.'s No. 21-A Smith, 1,544 ft. N and 330 ft. W of SE cor. Sec. 28, Blk. 194, G.C.&S.F.R.R. Sur.	Drlg. 1,300 ft.
Gulf Prod. Co.'s No. 20-B Smith, Sec. 22, Blk. 194, 330 ft. from N, 2,322 ft. from E, G.C.&S.F.	Flowed 117 bbls. 12 hrs.; total depth 1,703 ft.
Gulf Prod. Co.'s No. 25 Yates, 1,015 ft. N and 8,083 ft. E of SW cor., R. C. School Land	Top lime 1,214 ft.; show oil and gas 1,218 ft.; total depth 1,319 ft.
Henshaw et al's No. 1 University, 330 ft. from N and W of NE, Sec. 13, Blk. 18	Top pay 1,004 ft.; total depth 1,030 ft.; bailed 4 bbls. oil per hour.
Henshaw et al's No. 2 University, 330 ft. from N and E lines of NW of NE of Sec. 13, Blk. 18	Location.
Henshaw et al's No. 3 University, 330 ft. from S and E of NW of NE of Sec. 13, Blk. 18	Location.
Henshaw et al's No. 4 University, 330 ft. from S and W of NW of NE of Sec. 13, Blk. 18	Location.
Henshaw Oil Corp.'s No. 1 McDonald, 330 ft. from N and W of S 109 ac. of N 189 ac., Sec. 2, H.E.&W.T.	Shut down 1,412 ft.
Independent & Rowan & Tong's No. 2 McDonald, 153 ft. from W line and 170 ft. from N line of S half NE Sec. 46, Blk. 12	Shut down 1,120 ft.
Jayhawk Oil Co.'s No. 1 Price, 1,310 ft. from W, 330 ft. from S, Sec. 6, Blk. 12, H.&G.N.R.R. Sur.	Top salt 610 ft.; drlg. 1,000 ft.
J. L. Kennedy's No. 1 Roberts, C of Sec. 78, Blk. 3, T.&P.R.R. Sur.	Shut down 1,188 ft.
Sam Kitts et al's No. 1 Sherbino, 330 ft. from N and 990 ft. from W line, Sec. 52, Blk. C-4, G.C.&S.F.R.R.	Top salt 976 ft.; drlg. 2,316 ft.
Landreth Prod. Corp.'s No. 1 Cunningham, 235 ft. S and 275 ft. W of NE of S half of Sec. 32, Blk. 11, H.&G.N.R.R.	Rigging up.
Landreth Prod. Corp. et al's No. 1 Smithpeter, 330 ft. N and 280 ft. W of SE cor. Sec. 31, Blk. 11, H.&G.N.R.R. Sur.	Drlg. 125 ft.
Landreth's Prod. Co.'s No. 1 University, 330 ft. from N and W lines of E half of SE, Sec. 13, Blk. 18, University Land	Shut down 950 ft.; estimated 66,000,000 ft. gas at 960 ft.; rig burned; shut in.
Landreth Prod. Co.'s No. 1-C University, 330 ft. from N and E, NW of SW of Sec. 31, Blk. 16	Drlg. 398 ft.
Landreth Prod. Co.'s No. 2-C University, 330 ft. from N and W of NW of SW, Sec. 31, Blk. 16	Show oil and gas 975 ft.; drlg. 1,440 ft.; swabbed 15 bbls. oil Oct. 16.
Landreth Prod. Co.'s No. 1-D University, 990 ft. from S and 990 ft. from W of Sec. 31, Blk. 16	Shut down 950 ft.
Landreth Prod. Co.'s No. 2-A McDonald, 330 ft. from N and E of Sec. 46, Blk. 12, H.&G.N.	Drlg. 1,140 ft.
Landreth & Dunning's No. 1 McDonald, 330 ft. N and E of SW cor. Sec. 40½, Blk. 12, H.&G.N.R.R. Sur.	Drlg. 230 ft.
Landreth Prod. & Henshaw Bros.' No. 1-E University, 330 ft. N and W of SE cor. W half NE Sec. 13, Blk. 18, University Land	Location.
Landreth Prod. & Henshaw Bros.' No. 2-E University, 330 ft. S and E of NW cor. of W half of NE Sec. 13, Blk. 18, University Land	Location.
Landreth's No. 1-I University, 330 ft. from N and E of Sec. 24, Blk. 18	Location.
Landreth & Henshaw's No. 1 University-G, 330 ft. N and E of SW cor. Sec. 31, Blk. 16, University Land	Drlg. 450 ft.
Landreth & Henshaw's No. 2 University-G, 330 ft. N and W of SE cor. SE of SW Sec. 31, Blk. 16, University Land	Drlg. 580 ft.
Landreth & Henshaw's No. 3 University-G, 330 ft. S and W of NE cor. of SE SW Sec. 31, Blk. 16	Rigging up.
Landreth Prod. Co.'s No. 3-B University, 330 ft. from S and E of NE Sec. 13, Blk. 18	40,000,000 ft. gas 910-12 ft.; drlg. 1,420 ft.
Landreth & World Oil Co.'s No. 2-B University, Sec. 13, Blk. 18, 660 ft. S of No. 1 University Land	Gas 1,165-75 ft.; increase 1,320-30 ft.; drlg. 1,587 ft.
Landreth Prod. & World Oil Co.'s No. 4-B University, 330 ft. S and W of NE SE NE Sec. 13, Blk. 18, University Land	Shut down 875 ft.
Landreth Prod. & World Oil Co.'s No. 5-B University, 330 ft. N and W of SE NE Sec. 13, Blk. 18, University Land	Shut down 875 ft.
Phillips Pet. Co.'s No. 4 Ramsey, 2,722 ft. from N and 1,980 ft. from E of Sec. 17, Blk. 199, G.C.&S.F.	Drlg. 768 ft.
Seminole Oil Co.'s No. 1 Pecos Valley, Sec. 22, Blk. 10, 360 ft. from SW, 2,280 ft. from SE, H.&G.N. Sur.	Location.
Mauch & Kroger's No. 1 Holmes, Sec. 5, Blk. 178, T.C. Sur.	Shut down 1,442 ft.
Mazda Oil Co.'s No. 1 Cordova Union Land Co., 2,310 ft. from N and 990 ft. from E of Sec. 103, Blk. 11, H.&G.N.	Rig.
Milham Exploration Co.'s No. 1 McDonald, 153 ft. from S and 170 ft. from E of N half of NW, Sec. 46, Blk. 12, H.&G.N.	Drlg. 1,095 ft., anhydrite.
Merrick-Bristow's No. 1 Neville, 330 ft. from S and W, Sec. 42, Blk. 12, H.&G.N.R.R. Sur.	Drlg. 855 ft.; top salt 645 ft.
McMan Oil & Gas Co.'s No. 8-C Smith, 1,667 ft. S and 330 ft. W of NE cor., Sec. 25, Blk. 194, G.C.&S.F. R.R. Sur.	Shut down 820 ft.
McMan Oil & Gas Co.'s No. 9-C Smith, 3,647 ft. S and 330 ft. W of NE cor. Sec. 25, Blk. 194, G.C.&S.F. R.R.	Drlg. 1,633 ft.
R. E. Moore's No. 1 Arnold, 1,320 ft. from S and 660 ft. from E lines of Sec. 18, Blk. 1, H.&T.C.R.R.	Shut down 1,218 ft.
Moncrief's No. 1 Clarkson, Sec. 84, Blk. 11, H.&T.N.R.R. Sur., 2,310 ft. from N and W	Top salt 860 ft.; shut down 918 ft.
Moncrief et al's No. 1 Tippett, 330 ft. from S, 330 ft. E of C, Sec. 36, Blk. 12, H.&G.N.	Top salt 875 ft.
Moncrief's No. 5 Tippett, 330 ft. N and 200 ft. W of SW cor., Sec. 101, located in Sec 107, C.T.&M.C.R.R. Sur.	Location.
Moncrief's No. 1 Sullivan, 150 ft. E of C of SW Sec. 58, Blk. 11, H.&G.N.R.R. Sur.	Location.
George Morgan's No. 2 Toborg, Sec. 539, Blk. 1, 150 ft. S of Moncrief's No. 1	Drlg. 1,150 ft.
Mid-Kansas Oil & Gas Co.'s No. 7 Smith, 330 ft. N and 227 ft. E of NW cor., Sec. 21, Blk. 194, G.C.&S.F.	Shut down 1,148 ft.
Mid-Kansas Oil & Gas Co.'s No. 32 Yates-A, 225 ft. N of most southerly N line and 1,308 ft. E of most western E line, Sec. 32, Blk. 194, I. G. Yates, Sur. A-8,195	Shut down 635 ft.
Mid-Kansas Oil & Gas Co.'s No. 3-E Yates, Sec. 59, Blk. 1, 1,335 ft. from N and 964 ft. from W, I.&G.N.	Top pay 1,087 ft.; shut down 1,165 ft.; flowed 132 bbls. first 10 hrs.
S. B. Owen's No. 1 Masterson, 330 ft. NE of SW line and 330 ft. NW of SE of Sec. 104, Blk. 10, H.&G.N.	Drlg. 900 ft., anhydrite.
J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.C.&S.F.	Fishing 875 ft.
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur.	Shut down 825 ft.
Phillips Pet. Co.'s No. 2 Pryor, 660 ft. from N and W line, Sec. 78, Blk. OW	Top pay 1,325 ft.; swabbed 75 bbls. 1,408 ft.
Phillips Pet. Co.'s No. 3 Ramsey, 2,635 ft. from N and 1,070 ft. from E of Sec. 17, Blk. 194, G.C.&S.F.	Location.
Phillips Pet. Co.'s No. 4 Ramsey, 2,722 ft. from N and 1,980 ft. from E of Sec. 17, Blk. 194, G.C.&S.F.	Drlg. 768 ft.
B. J. Spikes' No. 1 George Brown, 2,490 ft. SE and SW line, Sec. 8, Blk. 3	Show oil 1,180-90 ft.; shut down 2,359 ft.
Rector Oil Co.'s No. 1 State Land, 330 ft. N and W of SE cor. Sec. 106, Blk. 8, H.&G.N.R.R. Sur.	Drlg. 185 ft.
Red Bank Co.'s No. 1 Neville, 330 ft. from S and W Sec. 40, Blk. 12, H.&G.N.	Drlg. 1,430 ft.
M. M. Rowan's No. 1 University, NE Sec. 25, Blk. 16	Total depth 1,990 ft.
Schumaker et al's No. 1 Williams et al, 330 ft. N of middle of S line, Sec. 1, Blk. 117, G.C.&S.F.	Shut down 1,869 ft.
Shell Pet. Corp.'s No. 1 Owen et al, 220 ft. each way from E cor. Sec. 16, Blk. 5, H.&T.C.	Location.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. from N and E of SE Sec. 199, Blk. 3, I.&G.N.	Location.
Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur.	Rigging up.
Shell Pet. Corp.'s No. 2-C University Land, 330 ft. S and E of SW of NW Sec. 31, Blk. 16, University Land	Shut down 1,330 ft.
Shell Pet. Corp.'s No. 3-C University, 330 ft. N and W of SE of SW of NW Sec. 31, Blk. 16, University Land	Drlg. 870 ft.
Shell Pet. Corp.'s No. 4-C University, 330 ft. N and E of SW of SW NW of Sec. 31, Blk. 16, University Land	Top pay 925 ft.; drlg. 1,000 ft.; 400 ft. oil in hole.
Skelly Oil Co.'s No. 1 University, 330 ft. from S and W of N half SE Sec. 31, Blk. 16	Location.
Southern Crude O. P. Co.'s No. 1 Jackson T-139, Sec. 28, Blk. 3, 1,487 ft. from NE, 2,519 ft. from SE cor.	Location.
Sun Oil Co.'s No. 1 University-Toler, Sec. 25, Blk. 18, 330 ft. from N and 2,310 ft. from E	Oil show 1,410 ft.; shut down 1,420 ft.
Talbot et al's No. 1 Unsicker, 150 ft. each way from NE and SE cor. line of Sec. 25, Blk. 10, H.&G.N. Sur.	Material on ground.
Taylor-Link's No. 5 University, 990 ft. from N and 330 ft. from W of Sec. 30, Blk. 16	Shut down 875 ft.
Taylor-Link's No. 6 University, 330 ft. from N and 330 ft. from E of W half of SE, Sec. 13, Blk. 18	Drlg. 690 ft.
Taylor-Link Oil Co.'s No. 7 University Land, 330 ft. S and W of NE cor. of W half, Sec. 31, Blk. 16, University Land	Drlg. 440 ft.
Taylor-Link Oil Co.'s No. 8 University, 330 ft. N and 2,310 ft. W of SE cor. Sec. 31, Blk. 16, University Land	Drlg. 340 ft.
Taylor-Link Oil Co.'s No. 9 University, 990 ft. N and 2,310 ft. W of SE Sec. 31, Blk. 16, University Land	Rigging up.
The Texas Co.'s No. 1 McDonald, NE cor. of SW, Sec. 46, Blk. 12	Top salt 680 ft.; setting 6-in. casing 1,460 ft.
The Texas Company's No. 2 McDonald, 330 ft. N and 775 ft. W SE cor. SW Sec. 46, Blk. 12, H.&G.N.R.R. Sur.	Rigged up.
The Texas Company's No. 1 Graef, 2,329 ft. from N and 2,114 ft. from E of Sec. 44½, Blk. 12, H.&G.N.R.R. Sur.	Location.
Texas-Phillips' No. 1 Campbell, 1,820 ft. from SW, 330 ft. from SE, Sec. 46, Blk. 10, H.&G.N.	1,000 ft. oil in hole; oil from 1,710-13 ft.; hole fills 250 ft. in 12 hrs.; 5,000 bbls. sulphur water 2,361 ft.; shut down 2,430 ft.
Tidal Oil Co.'s No. 2 McDonald, 330 ft. from S and E lines of S half NW, Sec. 46, Blk. 12	Shut down 1,515 ft.
Tower & McKanna's No. 1 University, Sec. 14, Blk. 16, 2,310 ft. from N and E	Fishing 2,049 ft.
Transcontinental Oil Co.'s No. 1 University, NE NW SW Sec. 18, Blk. 18	Top lime 1,155 ft.; shut down 4,565 ft.
Trees Oil Co.'s No. 2 Trees, 330 ft. from N and W of SE cor. Sec. 43, Blk. 8, H.&G.N.R.R. Sur.	Drlg. 1,975 ft.
Trees Oil Co.'s No. 3 Trees, 330 ft. from S and W of Sec. 90, Blk. 8, H.&G.N.	Cellar.
R. D. Webb's No. 2 fee, 1,665 ft. from N and 951 ft. from E line of Sec. 312, L. P. Scott Sur.	Hole full sulphur water 1,600 ft.; drlg. 1,610 ft.
World Oil Co.'s No. 1 University, 330 ft. from N and 2,310 ft. from E of Sec. 31, Blk. 16, University Land	4,000,000 ft. gas 1,630 ft.; fishing 1,629 ft.
Zoch et al's No. 1 Cordova Union Land Co., C of SW Sec. 81, Blk. 11, H.&G.N.	Drlg. 205 ft.
PRESIDIO COUNTY	
L. C. Brite's No. 4 Brite, 271 ft. from N, 1,188 ft. from E, Sec. 245, Blk. 4	Shut down 670 ft.
Eastland Oil Co.'s No. 1 Tootle, C Sec. 17, Blk. 1, D.P. R.R. Sur.	Spudded; shut down.
T. P. Coal & Oil Co.'s No. 1 Bogel, 330 ft. S and W, Sec. 83, Blk. 8, G.H.&S.A.	Drlg. 2,120 ft.
REAGAN COUNTY	
Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land	Top pay 2,903 ft.; 1,000 ft. fluid in hole; top pay 6,807 ft.; drlg. 6,910 ft.; 500 ft. oil in hole.
Kemrow Co.'s No. 1 Sawyer Cattle Co., 1,320 ft. from N and 1,980 ft. from E line, Sec. 8, J. G. Robinson Sur.	Location.
Thomas & Brann et al's No. 1 Hughes, C NE of Sec. 7, Blk. 1, T.C.R.R. Sur.	Material.
Skelly Oil Co.'s No. 4 University-Grayson, Sec. 33, Blk. 8, 990 ft. W and 660 ft. N of No. 2	Shut down 3,074 ft.; top pay 3,051 ft.; swabbed 120 bbls. in 6 hrs.
REEVES COUNTY	
Mac Best et al's No. 1 McKinney, 400 ft. from N line, 1,030 ft. from E line, Sec. 26, Blk. C-18	Rigging.
Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft.	Shut down 2,990 ft.
H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N.	Spudded and shut down.

Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Shut down 500 ft.
Southern Crude O. P. Co.'s No. 1 Kloh-Rumsey, 2,310 ft. N and W SE cor., Sec. 23, Blk. 51 ..... Drlg. 4,225 ft.; hard lime.
David R. Thompson's No. 1 A. A. Eddins, Sec. 9, Blk. C-1 ..... Drlg. by casing 5,490 ft.

RUNNELS COUNTY

Gibson-Johnson's No. 1 Woods, Sec. 529, 2,600 ft. from S and 300 ft. from E, T. T. Williams Sur. ..... Drlg. 1,335 ft.
Vacuum Oil Co.'s No. 4 McMillan, 555 ft. S and 717 ft. W of NE cor., Lot 22, Domingo Diaz Sur., No. 532.. Location.

SCHLEICHER COUNTY

Fort McKavet's No. 1 Tisdale, Sec. 1,499, River Section, 3,630 ft. from S, 150 ft. from W ..... Set 6-in. casing 3,023 ft.; shut down 3,500 ft.
Interstate's No. 1 Whitten, 1,320 ft. from N and W, Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Hole slopped over with oil at 4,925 ft.; made one good flow; set 6-in. casing 5,050 ft.; drlg. 5,425 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. ..... Rigging up.
Underwood's No. 1 Tisdale, 2,095 ft. N and 1,186 ft. from E, Sec. 74, Blk. LL ..... Shut down 920 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 330 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. ..... Drlg. 875 ft.
Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur ..... Drlg. 2,060 ft.
Cottingham & Briscoe's No 1 Trees, C SE Sec. 147, Blk. 97 ..... Shut down 2,205 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman' Sec. 216, Blk. 2, H.&T.C. Sur. ..... Spudded and shut down 300 ft.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 3,965 ft.
Texas-Canadian's No. 1 Moore, 1,320 ft. from S and W Sec. 379, Blk. 97 ..... Location.

STERLING COUNTY

Sherwood B. Owen's No. 1 Tweedle, 1,980 ft. from N and 1,320 ft. from E of Sec. 10, Blk. T, T.&P. ..... Location.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Willson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Spudded and shut down.
Independent & Sun Oil Co.'s No. 1 Allison, Sec. 39, Blk. A, 200 ft. from N and 1,000 ft. from W ..... Drlg. 1,750 ft.
Phillips Pet. Co.'s No. 1 A. G. Holman, 2,310 ft. S and 330 ft. W NE cor., Sec. 25, G.C.S.D.&N.G.R.R. Sur..... Fishing 6,635 ft.; making 1,500,000 ft. gas 6,635 ft.
L. G. Priest's No. 1 Allison, 1,320 ft. N and E of SW cor., Sec. 52, Blk. A, T.&P. Sur. ..... Show oil 3,625 ft.; increase at 3,690 ft.; shut down 3,968 ft.

TAYLOR COUNTY

Condor Pet. Co.'s No. 1 Allen, C of NW Sec. 220, Blk. 64, H.T.C.R.R. Sur. ..... Location.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor. Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 4,960 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.K.&T.R.R. Sur. ..... Shut down 1,150 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 2,765 ft.
Mrs. J. B. McPhee's No. 1 Sam Belt, C Sec. 78, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.
Milham Exploration Co.'s No. 1 Bassett, Sec. 76, Blk. Y, W. E. Robertson Sur. ..... Cem. 6⅝-in. casing 3,986 ft.; shut down 5,490 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 625 ft.

TERRY COUNTY

Kingsland, O. P. Co.'s No. 1 Brownfield, C NW SW SW Sec. 7, Blk. 1-A, E.L.R.R. Sur. ..... Fishing baller 5,080 ft.

TOM GREEN COUNTY

Cannon et al's No. 1 Rust, 990 ft. S, 990 ft. W of NE cor. of Sec. 745 ..... Rig.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW Sec. 1,628, E. H. Ringer ..... Shut down 2,410 ft.
Fuhrman Pet. Co.'s No. 1 Wardlaw, 2,650 ft. from N and E of Sec. 6, Blk. 17, H.&T.C. ..... Location.

UPTON COUNTY

Dixie Oil Co.'s No. 32 Burleson, 330 ft. S and 1,650 ft. W of NE cor. John Nidever Sur. ..... Location.
Gulf Prod. Co.'s No. 2 Hughes, 150 ft. N and 255 ft. E of SW cor., Lease "B," W. Teer Sur. No. 4, A-806.... Total depth 2,068 ft.; swabbed 60 bbls. 12 hrs.
Pure Oil Co.'s No. 2 Hughes, Sec. 4, 150 ft. from N and W line of lease ..... Top salt 590 ft.; shut down 2,134 ft.
Texas Pacific C. & O. Co.'s No. 14-A Lane, 990 ft. N and 2,310 ft. W SE cor. Sec. 5, G.C.&S.F. ..... Location.
Texas Pacific Coal & Oil Co.'s No. 15-A Lane, 330 ft. N and 1,650 ft. W of SE cor. Sec. 5, G.C.&S.F.R.R. Sur.. Location.
T. P. Coal & Oil Co.'s No. 1 Sherek, 330 ft. from S and E of Sec. 1, Blk. 3, M-K-T ..... Drlg. 1,210 ft.
White Eagle's No. 2 Hughes, 150 ft. from S and W of lease, Sec. 4, Wm. Teer ..... Show oil 2,235 ft.; drlg. 2,235 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.
O. O. Owens, No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; reset 8-in. 2,511 ft.; total depth 4,210 ft.; cleaning out.
Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line Sec. 44, Blk. D-8, E.L.&R.R. Sur... Fishing 520 ft.
Valvert Oil Corp.'s No. 1 Bassett, C NE, Sec. 47, Blk. Y.. Set 15½-in. casing 767 ft.; set 10-in. casing 1,510 ft.; shut down 4,009 ft.

WARD COUNTY

Alpine Oil & Gas Co.'s No. 1 Boogher, 1,980 ft. SE and NE, Sec. 11, Blk. 5, H.&T.C. ..... Top salt 760 ft.; cem. 8-in. casing 758 ft.; 500,000 ft. gas standing 300 ft. oil in hole; total depth 2,151 ft.; swabbing 21 bbls.
Atlantic et al's No. 1 Dorr, 1,730 ft. S, 990 ft. W, Sec. 2, J. Howe ..... Total depth 145 ft.; fishing 15-in. casing.
Atlantic Oil and Delmar Oil Co.'s No. 4 Hayzlett, 2,490 ft. SE NW and 1,470 ft. NE of SW line Sec. 17, Blk. 5, H.&T.C.R.R. Sur. ..... Drlg. 480 ft.
Atlantic Oil and Delmar Oil Co.'s No. 5 Hayzlett, 2,420 ft. SW of NE line, 2,050 ft. NW SE of Sec. 17, Blk. 5, H.&T.C.R.R. ..... Drlg. 540 ft.
Barstow Oil & Gas Co.'s No. 1 Monroe, Sec. 50, Blk. 33.. Spudded and shut down.
Cranfill & Reynolds' No. 1 Robeson, 220 ft. NW and NE Sec. 75, Blk. 5, H.&T.C. ..... Top brown lime 2,420 ft.; shot 30 qts. 2,420-35 ft.; total depth 2,945 ft.; 500 ft. b.s. in hole.
Continental Oil Co.'s No. 2 Sealey, 330 ft. S and W, Sec. 81, Blk. A, G.M.M.&A. Sur. ..... Top brown lime 2,280 ft.; cem. 8-in. casing 2,284 ft.; total depth 3,245 ft.; oil pay 3,135 ft.; second oil pay 3,210-15 ft.; increase 3,230 ft.; standing full salt water 3,250 ft.
Gulf Prod. Co.'s No. 2 Hutchins, 330 ft. N and E, Sec. 7, Blk. O ..... Top salt 1,240 ft.; top pay 2,529 ft.; total depth 3,136 ft.
Gulf Prod. Co.'s No. 7 O'Brien, 330 ft. S and W Sec. 22, Blk. F, G.M.M.B.&A. Sur. ..... Rig.
Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW Sec. 18, Blk. 5, H.&T.C. ..... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; total depth 2,545 ft.; shut down for orders.
L. C. Harrison et al's No. 1 Wristen, 990 ft. from S and W lines of Sec. 26, Blk. B-28 ..... Shut down 510 ft. for repairs; hole full water 485 ft.
J. H. L. Oil Co.'s No. 3 Hayzlett, 220 ft. N and W Sec. 17, Blk. 5, H.&T.C. ..... Shut down 350 ft.
E. B. Lovelace et al's No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 162, Blk. 34, H.&T.C.R.R. ..... Drlg. 1,076 ft.
Penn & Atlantic's No. 1 Pecos Mercantile Co., Sec. 16, Blk. 34 ..... Shut down 2,587 ft.; salt water and oil 2,584-87 ft.; shot 40 qts. 2,345-98 ft.; produced 140 bbls. 24 hrs.
Penn & Atlantic's No. 2 Bennett, 2,310 ft. S line, 1,650 ft. W line, Sec. 16, Blk. 34, H.&T.C.R.R. Sur. ..... Location.
Shell Pet. Corp.'s No. 1 Owen et al, 220 ft. NW of SE line, 220 ft. SW of NE line, Sec. 16, Blk. 5, H.&T.C.. Top salt 775 ft.; show oil and gas 2,485 ft.; drlg. 2,496 ft.
Shipley's No. 3 Hayzlett, 2,490 ft. S, 1,470 ft. W Sec. 17, Blk. 5 ..... Top salt 725 ft.; drlg. 1,635 ft.
Shipley et al's No. 4 Hayzlett, 2,050 ft. NW of SE and 2,420 ft. NE of SW line of Sec. 17, Blk. 5, H.&T.C. R.R. Sur. ..... Top salt 720 ft.; drlg. 1,745 ft.
Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17 is N and S 220 ft. S and 1,910 ft. W Sec. 17, Blk. 5 ..... Location.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Shut down 566 ft.

WINKLER COUNTY

V. T. Bolin's No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.
Cinderella Syndicate's No. 1 Hendricks, 330 ft. N, 1,650 ft. W Sec. 42, Blk. 26, Public School Land.... Total depth 150 ft.; building rig.
Cranfill & Pickrell's No. 2 Hutchins, 2,310 ft. S and W Sec. 47, Blk. 26 ..... Running 6-in. 2,722 ft., gray lime; show gas 2,280 ft.; increase 2,395 ft.; estimated 5,000,000 ft. gas.; drlg. 2,940 ft.
Gulf Prod. Co.'s No. 2-B Lum Daugherty, 2,310 ft. from N and 1,320 ft. W Sec. 22, Blk. 26, P.S.L..... Top lime 2,495 ft.; show oil 2,680-85 ft.; pay 2,698-2,700 ft.; flow 50 bbls. hourly, 88 per cent water; fishing; total depth 3,005 ft.; cem. 6-in. casing 2,950 ft.
Humble O. & R. Co.'s No. 1-D Hendricks, 330 ft. from S, 2,310 ft. from W of Sec. 41, Blk. 26 ..... Drlg. 2,746 ft.
Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Top brown lime 2,510 ft.; shut down 2,598 ft.
Skelly Oil Co.'s No. 5 Daugherty, 1,326 ft. W, 2,310 ft. S, Sec. 22, Blk. 26 ..... Location.
Southern Crude O. P. Co.'s No. 4 Hendricks T-90, 2,310 ft. S and E of Sec. 47, Blk. 26 ..... Top lime 2,242 ft.; drlg. 2,531 ft.; 18,000,000 ft. gas 2,401-04 ft.; mixing mud to kill gas; estimated 25,000,000 ft. gas; oil show 2,575-78 ft.; total depth 2,659 ft.; rigging up standard tools.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 66)

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Siemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg.

CHILDRESS COUNTY

C. L. Sloane et als' No. 1 B. P. Smith Sur. 49, F. P. Knott lands ..... S.D. 4,675 ft.

COCHRAN COUNTY

Continental Oil Co.'s No. 1 Slaughter-A, 330 ft. from W, 430 ft. from S lines, League 130, Carson County School land ..... Small show gas 4,745-50 ft.; 3,000 ft. oil in hole 4,883 ft.; T.D. 5,001 ft.; P.B. 4,900 ft.; oil pay 4,873-88 ft.; swbd. 65 bbls. oil and 5 bbls. wtr.; to shoot third time.
Westbrook et als' No. 1 Slaughter, 400 ft. from S and E, Labour 67, League 118, Knox Co. School Lands... Spudding.

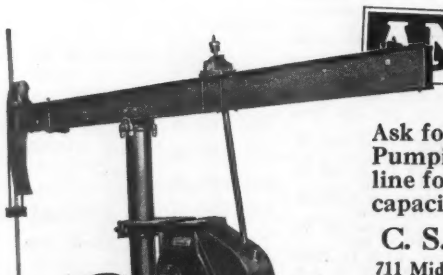
DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. from N line, 985 ft. from E line, Sec. 22, Blk. E, D.&P.R.R. Sur.. T.D. 3,006 ft; contract depth.
Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 3,510 ft.
Southland Oil Co.'s No. 1 Lewis, C SE 40 ac., Sec. 3, Blk. 29, H.&G.N.R.R. Sur. ..... S.D. 2,400 ft.

GRAY COUNTY

Adams Oil Co.'s No. 4 Morse, 330 ft. S and W, NE cor. Sec. 3, Blk. 26, H.&G.N.R.R. Sur. ..... Location.
Alexander and Shell Pet. Corp.'s No. 1 Harrah-McKinney, 330 ft. S and W, NE cor. E½ SE, Sec. 163, Blk. 3, I.&G.N.R.R. Sur. ..... Drlg. 1,640 ft.
British-American Oil Co.'s No. 2 Purviance, 330 ft. N and E, SW cor. E 160 ac., Sec. 61, Blk. B-2, H.& G.N.R.R. Sur. ..... Location.
Champlin Ref. and Danciger's No. 2 Cook-Faulkner, 860 ft. N, 330 ft. E, SW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... 1,500 ft. oil in hole 2,855-57 ft; T.P. 2,857-65 ft; S.D. 2,960 ft; flowing 150 bbls.
Champlin Ref. and Danciger's No. 3 Cook-Faulkner, 330 ft. S and E, NW cor. W 120 ac. of E 200 ac., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ..... Location.
Champlin Ref. Co.'s No. 3 McLaughlin, 990 ft. from S and E lines, E½, Sec. 33, Blk. B-2 ..... S.D. 2,855 ft; 4,000,000 ft. gas 2,750-2,850 ft.
Constantine et als' No. 1 Crews, 330 ft. S and W, NE cor. SW, Sec. 20, Blk. 30, H.&G.N.R.R. Sur. ..... Building rig.
Crabtree Drlg. Co.'s No. 1 B. F. Talley, SW NE, Sec. 114, Blk. M-2, B.S.&F. Sur. ..... S.D. 2,740 ft.
Danciger O. & R. Co.'s No. 1 Arnold, 330 ft. N and E, SW cor. SE, Sec. 149, Blk. 3, I.&G.N. Sur. ..... S.D. 3,072 ft.
Danciger O. & R. Co.'s No. 6 Beck, 330 ft. S, 990 ft. W, NE cor., Sec. 23, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,739 ft.
Danciger O. & R. Co.'s No. 7 Beck, 330 ft. S, 1,650 ft. W, NE cor., Sec. 28, Blk. B-2, H.&G.N. Sur. ..... S.D. 2,690 ft; S.G. 2,397-2,455 ft.
Danciger et als' No. 11 Jackson, 330 ft. S, 1,320 ft. W, NE cor. NW, Sec. 88, Blk. B-2, H.&G.N. Sur. ..... T.D. 2,906 ft; set 8¼-in. csg.
Danciger O. & R. Co.'s No. 1 McLarty, 1,220 ft. from S, 330 ft. from W, W½ NW, Sec. 10, Blk. 1, A.C. H.&B. Sur. ..... 12,000,000 ft. gas 2,275-2,350 ft; T.D. 2,500 ft; 50,000,000 ft. gas 2,275-2,490 ft.
Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Location.

Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. from S, 286 ft. from E of E 39½ ac., NW, Sec. 5, Blk. 1, A. C.H.&B. Sur. ... T.D. 2,588 ft.
Danciger O. & R. Co.'s No. 1 Williams, 330 ft. from N, 330 ft. from E, S½ NW ... Estimated 15,000,000 ft. gas 2,610-70 ft; S.D. 2,720 ft.
Dunlop's No. 4 Morse, 330 ft. N and E SW cor. SW, Sec. 17, Blk. A-9, H.&G.N.R.R. Sur. ... Drlg. 1,300 ft.
Sines & Reiger's (formerly Eslick et als') No. 1 Mrs. J. A. Hopkins, NW cor. W 80 ac. of SW, Sec. 84, Blk. B-2, H.&T.C. Sur. ... S.D. 3,206 ft.
Gardner Bros. and Collins' No. 2 Saunders, 955 ft. from S, 330 ft. from E of W 68 ac. E½ J. G. Eustice Sur. ... Location.
Gulf Prod. Co.'s No. 3 Worley-A, 330 ft. N, 1,650 ft. W, SE SW, Sec. 36, Blk. 3, I.&G.N.R.R. Sur. ... Temp. abd. at 3,163 ft.
Guernsey Oil Co.'s No. 1 Pope, 330 ft. from N and W lines, W½ SW, Sec. 173, Blk. 3, I.&G.N. Sur. ... Fishing 2,360 ft.
Guernsey Oil Co.'s No. 1 Vaniman, 330 ft. N and W, E½ NE, Sec. 175, Blk. 3, I.&G.N.R.R. Sur. ... Location.
Haymer O. & G. Co.'s No. 1 Morse, 330 ft. each way out of SE cor. E½ SE, Sec. 45, Blk. A-9, H.&G.N. Sur. ... S.D. 350 ft; set 12½-in. csg.
Herragan Oil Co.'s No. 1 Bradford, 330 ft. from N, 990 ft. from E, Sec. 123, Blk. B-2 ... First show gas 2,475-80 ft; 15,000,000 ft. gas 2,515-40 ft; T.D. 2,708 ft.
Hinerman Bros.' No. 1-A Taylor, 330 ft. from NE E½ NE, Sec. 8, Blk. H, A. H. Wallace Sur. ... S.D. 722 ft.
Humble O. & R. Co.'s No. 1 Chapman, 330 ft. from N and E, NW, Sec. 69, Blk. 25, H.&G.N. Sur. ... S.D. 1,882 ft.
Humble O. & R. Co.'s No. 3 Jackson, 330 ft. from E line, 330 ft. from N line of E 110.5 ac., Sec. 90, Blk. B-2, H.&G.N.R.R. Sur. ... S.G. 2,533 ft; T.D. 2,898 ft; S.G. 2,782 ft.
Humble O. & R. Co.'s No. 4 Jackson, 976 ft. N, 330 ft. E, SW cor. E 95.25 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. ... S.G. 2,271 ft; S.D. 2,869 ft.
Humble O. & R. Co.'s No. 1 Palmer, 330 ft. from N and E lines, of W 100 ac., Sec. 31, Blk. B-2, H.&G. N. Sur. ... S.G. 2,697 ft.; drlg. 2,880 ft.
Magnolia Pet. Co.'s No. 7 Bowers, 990 ft. S and E, NW cor. NW, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. ... Drlg. 2,360 ft.
Magnolia Pet. Co.'s No. 8 Bowers, 990 ft. N and E, SW NW, Sec. 63, Blk. B-2, H.&G.N.R.R. Sur. ... Drlg. 1,965 ft.
Magnolia Pet. Co.'s No. 4 Magnolia, 990 ft. S and 330 ft. W, NE cor. NE, Sec. 11, Blk. 3, I.&G.N.R.R. Sur. ... Drlg. 390 ft.
Magnolia Pet. Co.'s No. 1 Wright, 330 ft. S and W lines, S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. ... 15,000,000 ft. gas 2,707-10 ft; S.D. 2,710 ft.
Magnolia Pet. Co.'s No. 2 Wright, 320 ft. from W, 330 ft. from S, S½ SW, Sec. 13, Blk. 3, I.&G.N. Sur. ... S.D. 2,702 ft.
McMan O. & G. Co.'s No. 3 Jackson, 974 ft. N, 330 ft. W, SE cor. W 95.25 ac. of E 190.5 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. ... Drlg. 2,690 ft.
McMan O. & G. Co.'s No. 4 Jackson, 970 ft. N, 330 ft. E, SW cor. W 95.25 ac. of E 190.5 ac., Sec. 90, Blk. B-2, H.&G.N. Sur. ... Drlg. 2,280 ft.
Oil Operators' No. 1 Bowers, 330 ft. from N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ... Show oil and gas 2,400-17 ft; drlg. 3,055 ft; S.O. 3,036-55 ft; first gas 2,483 ft; increased at 2,500 ft., 2,544 ft., and 2,950 ft.
Operators Oil Co.'s No. 1 Lovett, 330 ft. from N and W line, W½ NE, Sec. 57, Blk. B-2, H.&G.N. Sur. ... Gas 2,390 ft.; S.O. 2,837-47 ft; T. D. 3,061 ft; to P.B. and shoot.
Operators Oil Co.'s No. 5 Cook-Faulkner, 990 ft. N, 330 ft. W, SE W 90 ac., Sec. 30, Blk. B-2, H.&G.N. Sur. ... S.D. 2,748 ft; standardizing.
Operators Oil Co.'s No. 6 Cook-Faulkner, 330 ft. S and E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ... S.G. 2,424 ft. and 2,477 ft; S.D. 2,750 ft.
Operators Oil Co.'s No. 7 Cook-Faulkner, 330 ft. S, 320 ft. E, NW cor., Sec. 30, Blk. B-2, H.&G.N. Sur. ... S.G. 2,380 ft; S.D. 2,691 ft.
Operators Oil Co.'s No. 8 Cook-Faulkner, 330 ft. S, 1,310 ft. E, NW cor., Sec. 30, Blk. B-2, H.&G.N.R.R. Sur. ... S.D. 2,685 ft.
Osborn et als' No. 1 Morse, 330 ft. N and E, SW cor. S½ NE, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ... S.O. 2,572 ft; C.O. and swbng. 500 ft. oil from 2,572-2,670 ft; S.D. 2,672 ft; to deepen; swbng. 10 bbls. per day.
Panhandle Ref. Co.'s No. 3 Saunders, 330 ft. N and E, SW cor. E½ NE, Sec. 3, Blk. 1, A.C.H.&B. Sur. ... S.D. 2,474 ft.
Phillips Pet. Co.'s No. 1 Eakin, 330 ft. from S, 330 ft. from W, Sec. 56, Blk. 25, H.&G.N.R.R. Sur. ... S.O. 2,245-55 ft; 1,000,000 ft. gas 2,170-2,255 ft; drlg. 4,724 ft.
Phillips Pet. Co.'s No. 1 Jackson, 330 ft. each way from NE cor. NE, Sec. 58, Blk. B-2, H.&G.N.R.R. Sur. ... S.O. 2,712-22 ft; 250 ft. oil in hole; set 5-in. csg. 3,018 ft; 7,000,000 ft. gas 3,130 ft; 1,000,000 ft. gas 3,144 ft; T.D. 3,260 ft; C.O.
Phillips Pet. Co.'s No. 6 Jackson, 330 ft. from N, 990 ft. from E line, S½ NE, Sec. 88, Blk. B-2, H. &G.N.R.R. Sur. ... T.D. 2,770 ft.
Phillips Pet. Co.'s No. 6 Palmer, 330 ft. S and W, NE cor., Sec. 81, Blk. 2, H.&G.N.R.R. Sur. ... S.D. 2,743 ft.
Plains Drlg. Co.'s No. 1-A Chapman, 330 ft. from S and W, NE, Sec. 10, Blk. 26, H.&G.N. Sur. ... S.G. 2,240 ft; 15,000,000 ft. gas 2,240-90 ft; T.D. 2,490 ft.
Prairie O. & G. Co.'s No. 1 Langham, 330 ft. N and E, SW, Sec. 1, Blk. B-2, H.&G.N.R.R. Sur. ... 60,000,000 ft. gas; 900 ft. oil in hole; T.P. 2,810-91 ft; T.D. 2,912 ft; S.O. 2,810 ft; S.O. 2,857-59 ft., and 2,883-89 ft; swbd. 8 bbls. in 10 hrs.
Quillian et als' No. 1 Barrett, 330 ft. from N, 330 ft. from E, Sec. 131, Blk. 3, H.&G.N. Sur. ... 20,000,000 ft. gas 2,660-2,705 ft; T. D. 2,785 ft.
Ray et als' No. 1 Noble, 240 ft. from S and 330 ft. from W line, W 80 ac., SW, Sec. 10, Blk. A-6, H.&G. N. Sur. ... Rig.
Rierger & Steckoll's No. 1 Bohr, 330 ft. from S and E, Sec. 37, Blk. B-3, H.&G.N. ... Rig.
Shamrock O. & G. Co.'s No. 2 Saunders-Lincoln, 330 ft. N and W, SE cor. W½ NE, Sec. 3, Blk. 1, A.C.H. &B.R.R. Sur. ... Drlg. 2,428 ft; S.G. 2,270-2,305 ft.


AMERICAN
AURORA, ILL.
Ask for catalog on American Pumping Units. A complete line for various depths and capacities.
C. S. CARTER, Agent
711 Mid-Continent Bldg., Tulsa, Okla.
THE AMERICAN WELL WORKS
General Offices AURORA, ILLINOIS and Factory

Shamrock O. & G. Co.'s No. 3 Saunders, 330 ft. N and E, SW E½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ... Drlg. 2,080 ft.
Shamrock O. & G. Co.'s No. 1 Taylor, 330 ft. each way out of NE cor. NW, Sec. 1, Blk. 2, H.&G.N. Sur. ... Drlg. 750 ft.
Skelly Oil Co.'s No. 1 Chapman, 330 ft. from S and E, S½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ... Drlg. 1,850 ft.
Skelly Oil Co.'s No. 5 Jackson, 970 ft. N, 330 ft. W, SE cor. W 190 ac. of Sec. 90, Blk. B-2, H.&G.N. Sur. ... Drlg. 2,512 ft.
St. Clair Oil Co.'s No. 1 Dial, 330 ft. S and W, NE cor. SE, Sec. 10, Blk. 25, H.&G.N.R.R. Sur. ... Cellar.
St. Clair Oil Co.'s No. 1 Rowe, Sec. 32, Blk. R ... S.D. 3,490 ft; hole full wtr.
St. Clair Oil Co.'s No. 1 L. S. Stockton, SE cor., Sec. 35, W. R. Lee Sur. ... Spudded and S.D.
Stogner Meaders' No. 1 Taylor, 330 ft. from S and E, SW Sec. 7, Blk. H, A. H. Wallace Sur. ... Drlg. 1,605 ft.
Sun Oil Co.'s No. 4 Purviance, 330 ft. S and E, NW cor., Sec. 61, Blk. B-2, H.&G.N.R.R. Sur. ... S.D. 2,410 ft; standardizing.
The Texas Co.'s No. 3-B Chapman, 330 ft. S and E, NW cor. SE, Sec. 69, Blk. 25, H.&G.N.R.R. Sur. ... Drlg. 1,985 ft.
The Texas Co.'s No. 3 Comb-Worley, 330 ft. N and W, SE cor., Sec. 36, Blk. 3, I.&G.N. Sur. ... Drlg. 2,140 ft; 4,000,000 ft. gas 2,135-40 ft.
The Texas Co.'s No. 7 Cook-Faulkner, 330 ft. N. and W, SE cor. W 200 ac., Sec. 29, Blk. B-2, H.&G.N. Sur. ... Estimated 30,000,000 ft. gas 2,380-2,725 ft; S.D. 2,725 ft.
The Texas Co.'s No. 3 McLarty-B, 1,326 ft. S, 660 ft. E, NW E½, Sec. 10, Blk. 1, A.C.H.&B. Sur. ... Drlg. 2,140 ft; 4,000,000 ft. gas 2,135-40 ft.
The Texas Co.'s No. 14 Saunders, 955 ft. N, 330 ft. W, SE cor. W½ of J. G. Eustis Sur. ... Drlg. 2,115 ft.
The Texas Co.'s No. 15 Saunders, 330 ft. N and W, SE cor. W½ SE, Sec. 4, Blk. 1, A.C.H.&B. Sur. ... T.D. 1,860 ft.
Travis & Rieger's No. 1 Mackie, 330 ft. from N and E, Sec. 114, Blk. B-2, H.&G.N.R.R. Sur. ... Location.
White Eagle O. & R. Co. et als' No. 2 Faulkner, 330 ft. from S and W, E 60 ac., Sec. 29, Blk. B-2 ... Standardizing 2,476 ft.
Wright Wilson, trustee's No. 1 Chapman, 175 ft. from S and E line, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ... Drlg. 2,430 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood, 320 ft. from N and W lines, League 7, Wilbarger County School lands; elevation 3,363 ft; contract depth 5,000 ft. ... S.D. 3,250 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. of N 160 ac. of S 240 ac., Sec. 85, Blk. 46, H.&T.C. Sur. ... S.O. and wtr. 3,010-11 ft; C.O. 3,053 ft.
Continental Oil Co.'s No. 1-B Johnson, 330 ft. S and W, NE cor. NW, Sec. 6, Blk. 1, B.&B. Sur. ... 10,000,000 ft. gas; S.D. 3,010 ft.
Devore Oil Co.'s No. 1 Johnson Bros., 330 ft. from S and E line, NW SW, Sec. 28, Blk. Y, A.&B. Sur. ... S.D. 2,950 ft.
Huey et als' No. 3 Smith et al, 330 ft. from N, 660 ft. from W, S 40 ac. of E 100 ac., SE, Sec. 12, Blk. Y. ... S.D. 1,933 ft.
Midwest Explin. Co.'s No. 1 Garner et al, 330 ft. N and W, SE cor. NE, Sec. 124, Blk. 4, I.&G.N. Sur. ... Drlg. 2,330 ft.
Midwest Explin. Co.'s No. 2 Gardner et al, 330 ft. N, 1,650 ft. W, SE cor. NE, Sec. 124, Blk. 4, I.&G.N. Sur. ... Drlg. 2,215 ft.
O. B. Penney's No. 2 Johnson Bros., 330 ft. from S line, 330 ft. from W line, W½ NE, Sec. 35, Blk. Y, A.&B. Sur. ... 31,000,000 ft. gas 1,990 ft; drlg. 3,060 ft; S.O. 3,040-45 ft.
Phillips Pet. Co.'s No. 1 Johnson Bros., 330 ft. from N and W lines, NW, Sec. 34, Blk. Y, A.&B. Sur. ... Pay 2,951-72 ft; initial prod. 30 bbls. oil and 5,000,000 ft. gas; fishing 3,085 ft.
Phillips Pet. Co.'s No. 6 (Florence), 330 ft. each way from S and W lines, E½ ... T.D. 2,876 ft; T.P. 2,805 ft; I.P. 70 bbls; shot 54 qts. 2,788-2,828 ft; C.O. 2,876 ft.
Prairie O. & G. Co.'s No. 4 Cal Merchant, 5,612 ft. S, 330 ft. E, NW, Sec. 37, Blk. 47, H.&T.C.R.R. Sur. ... Set 6-in. csg. 2,610 ft.
Reliance O. & G. Co.'s No. 2 Sanford, 330 ft. S and E, NW W½ of N 80 ac. of S 320 ac., Sec. 83, Blk. 46, H.&T.C. Sur. ... Drlg. 1,510 ft.
Skelly Oil Co.'s No. 2 Lee Bivins, 306 ft. from E, 1,242 ft. from S line, S 160 ac. of N 320 ac., Sec. 84, Blk. 46, H.&T.C.R.R. Sur. ... Drlg. 2,525 ft.
Sunny Jim Oil Co.'s No. 3 Pitts, 330 ft. N and W of most southerly SE cor., Sec. 9, Blk. M-21, T.C. Sur. ... Location.
The Texas Co.'s No. 3 Moore, 330 ft. S. 1,338 ft. E, NW cor. SW, Sec. 125, Blk. 4, I.&G.N.R.R. Sur. ... Spudding.
Travelers Oil Co.'s No. 2 Cockrell, 350 ft. from E and S line, Sec. 8, Blk. B-3, D.&S.E. Sur. ... 1,000,000 ft. gas 2,610-2,770 ft; S.D. 2,981 ft; show oil.

LAMB COUNTY

Graham O. & G. Co. et als' No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ... Drlg. 3,405 ft.

LIPSCOMB COUNTY

Brown et als' No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ... S.D. 3,305 ft.
Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ... T.D. 4,775 ft; U.R. 5 3/16-in. csg.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ... Small S.O. 1,133-40 ft; sand; S.D. 4,167 ft.

MOORE COUNTY

Amarillo Oil Co.'s No. 1 Read-A, C NW, Sec. 14, Blk. 13-12, D.&P. Sur. ... 4,000,000 ft. gas; drlg. 3,095 ft.
Amarillo Oil Co.'s No. 1 Perkins-A, 330 ft. each way out of NW cor. NE, Sec. 76, Blk. 3 ... Drlg. 2,750 ft.
Red River Gas Co.'s No. 1 J. M. Shelton, 330 ft. each way from SE cor., Sec. 52, Blk. 3, G.&M. Sur. ... Drlg. 825 ft.
Dana O. & G. Co.'s No. 1 Anthony, C NW, Sec. 260, Blk. 44, H.&T.C.R.R. Sur. ... Drlg. 2,450 ft.
Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac. of N 160 ac., Sec. 4, Geo. Mahan Sur. ... 2,000,000 ft. gas 1,550-65 ft; S.D. 2,225 ft.

MOTLEY COUNTY

Explin. Co.'s No. 5 Matador, C, Sec. 45, Blk. J-B, C, B.&C.N.G.R.R. Sur. ... Drlg. 2,560 ft.
Explin. Co.'s No. 6 Matador, 330 ft. from N line, 330 ft. from E line, Sec. 132, Blk. M ... Drlg. 2,610 ft.
Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1 Allison "A," 386 ft. from E line, 5,439 ft. from S line, Sec. 1, W. T. Palmer Sur. ... Drlg. 410 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14 ... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. 5-A ... T.D. 5,992 ft; will P.B. and shoot; S.O. 5,288-91 ft; C.O.

WHEELER COUNTY

Lela O. & G. Co.'s No. 1 Williams & Laycock, 330 ft. from S, 209 ft. from W, W½ NW, Sec. 20, Blk. A-8, H.&G.N. Sur. ... S.D. 1,755 ft.
Murchison & Fain's No. 4 Close, C NE NE, Sec. 75, Blk. 23, H.&G.N.R.R. Sur. ... Drlg. 790 ft.
Shell Pet. Corp.'s No. 1 Ackley, C SW SE, Sec. 20, Blk. 24, H.&G.N. Sur. ... Drlg. 1,840 ft.; 4,000,000 ft. gas 1,815-40 ft.
The Texas Co.'s No. 1 Cuddleback, C SE SE, Sec. 18, Blk. 24, H.&G.N. Sur. ... Drlg. 975 ft.
Upham's No. 1 Cuddleback, C SE SE, Sec. 2, Blk. 24, H.&G.N.R.R. Sur. ... Location.
Vaughn et als' No. 3 Ackley, 330 ft. from N, 330 ft. from W, Sec. 4, Blk. 27, H.&G.N. Sur. ... T.D. 1,840 ft; 5,000,000 ft. gas 1,660-1,770 ft.
Wischkamper et als' No. 1 Curry, C NE SE, Sec. 53, Blk. 23, H.&G.N. Sur. ... Drlg. 1,705 ft.

EASTERN FIELDS

(Continued from Page 78)

On Little Creek of Mill Creek, 2 miles north of the Reedy Oil Co.'s test on the L. M. Riddle farm, the Tom Harris Oil Co. has started to drill on the Moley Ludwick farm. In Central district, Doddridge County, Nay & Kintzer have started to drill on the Howard Waldo farm. In Curtis district, Roane County, 2,000 feet west of the Reedy Oil Co.'s test on the A. D. Paugh farm, the P. F. Parsons Oil & Gas Co. has moved a drilling machine to a location on the L. B. Bee farm.

On Middle Fork River, Union district, Ritchie County, the Hope Construction & Refining Co. is building a rig over an old gas well on the Lee Fletcher farm. It will be drilled to the Big Injun sand. On Wetzel Run, Paw Paw district, Marion County, the Carnegie Natural Gas Co. has the rig up on the Charlotte Price farm. On Skeleton Run, McClellan district, Doddridge County, the Skeleton Oil & Gas Co. has a rig completed on the A. F. M. Lyons farm. In Jefferson district, Pleasants County, F. B. Glenn is drilling on the W. Z. Outward farm.

In Clay district, Ritchie County, J. H. Wagner has the rig completed on the S. T. Weekley farm, 600 feet southeast of his test on the E. Butcher farm. On Walnut Fork of Clover Run, the Hardly Able Oil Co. has started to drill on the T. E. Nichols farm.

SOUTHWEST PENNSYLVANIA

In South Strabane Township, Washington County, George McCool and others are due in the sand on the George Barr farm. In the same township, W. A. Lindsey & Co. are drilling a second test on the Jesse Woods farm. In Cecil Township, the Bishop Oil & Gas Co. has started to drill on the Tannehill farm. In Smith Township, the Howe Oil & Gas Co. is drilling on the N. R. Morgan farm. In Taylorstown district, the Washington Oil Co. has a 3-bbl. pumper at No. 11 on the Samuel Woodburn farm. In Plum Township, Allegheny County, the Pine Oil Co. is due in the sand on the Rebecca A. Walley farm. In the same township, Scheid Casey & Co. are drilling on the D. McClintock farm.

TO STORE MANUFACTURED GAS IN DEPLETED SANDS

(Continued from Page 91)

tured gas was injected, was close to 500,000 feet per day under a vacuum. Thirty-three million feet of about 580 B.t.u. gas was injected into a few wells, later over 37,000,000 feet was withdrawn. About 20,000,000,000 B.t.u.s were injected, 32,000,000,000 recovered or an excess equivalent to 12,000,000 feet of natural gas. The formation in which this gas was stored was found at a depth of about 3,000 feet; close to 10 feet of the sand was pay or open sand. The porosity of the sand was over 20 per cent. The pressure required to force the gas into the sand varied from 30 to 70 pounds. This variation was due to friction in the tubing. The temperature in the sand was 85 degrees Fahrenheit and at all times the flowing gas injected was cooled below this figure. I am of the opinion that depleted oil sands will prove even a better storage than the gas sands, provided the sands are free from water.

I believe plenty of these natural storage fields can be found in any of the states where gas and oil has been produced and depleted or partly depleted. Of course, it will require a complete study of each particular field, and there are a number of difficult problems to overcome. However, with proper co-operation of the operating companies, these problems can be solved and the value of such a storage to a large gas utility will well justify the effort. This will be particularly true when large house-heating loads are on the lines.

I am not so sure but that natural gas could be pumped through to the Atlantic Coast in New Jersey most any time now as one of the large utilities purchased two oil lines running from the gas fields in Pennsylvania to the Atlantic Seaboard and is now dealing for two other lines so we may see a mixture of natural gas with manufactured gas supplying some of the many consumers in the East.

Germany's Example

For the manufactured gas industry to take the benefit of the earth's natural storage reservoirs, it may require the gas to be manufactured at the mine and pumped to the large cities as the oil and gas fields are usually in the same area in which the coal fields are being operated. In Germany they propose to generate gas at the mines in the Ruhr Valley and supply the gas at high pressure to cities more than 200 miles distant.

It may even be economical for manufactured gas companies under present conditions to send their gas to relatively distant underground storage and then to return it as needed. It will be necessary to compare investments and operating costs for each situation before it can be determined whether aboveground or underground storage is more economical. My point is that the possible use of underground storage should be investigated.

While it may seem that some of our present operating oil and gas territory will never be used for the storage of gas, it is wrong and an injustice to posterity to flood oil territory with water to increase production where other methods could be used or to improperly plug abandoned wells or to otherwise damage these underground storage spaces which may be so valuable in the future.

Some natural gas companies are now putting gas underground for storage. All natural gas companies depend to a greater or less extent on the capacity of the producing fields for storage. Many natural gas and manufactured gas companies will use underground storage in the future. The practice has been proved to be thoroughly practicable under proper conditions. I commend future attention to and study of this subject.

LOUISIANA-ARKANSAS

(Continued from Page 59)

of the field at 2,700 feet and is drilling at 2,720 feet. It may make a well but past experience is against it. Meanwhile they have location for No. 5 C. M. Noble in the NE cor. NW Section 36-16-5, closer in to production, and are rigging up.

What success Northern Louisiana Natural Gas Co. has in trying to kill the crater of No. 1 Boykin in Section 20-16-6 by pumping clear water into it through No. 4 Boykin, the first of three offsets, is has been been able to get through gas-saturated sands without a blow-out, will be interesting. They landed 6-inch at 2 299 feet and drilled to 2,398. Previous attempts to kill an older crater in Richland by pumping water and then thin mud, thicker mud and then iron oxide and barytes into it were not crowned with success. Southern Carbon Co. got an estimated 500,000 feet of gas at 2,450 feet in No. 1 Binion & Sartor, Section 21-17-6, in the northern zone of operations, at 2,450 feet and will make a few feet more hole before calling it a job. Palmer corporation is deepening two wells in the Alto district. No. 1 McCoy, completed June 11, 1927, making 15,000,000 feet of gas from 2,427 feet, has been drilled three feet deeper and is setting 4½-inch, and No. 2 Rhymes, Section 5-16-6, completed by Gulf Refining Co. July 26, 1927, making 44,000,000 feet of gas from 2,440 feet, cemented the bottom and is drilling out to set liner and bail at the old depth. It seems that salt water has encroached a little bit. Palmer corporation's No. 4 Rhymes, Section 28-17-6, is getting close to where Hope Production Co., an affiliated organization, developed 7,500,000 feet of gas in No. 1 Eubanks, discovery well of a second deep Trinity horizon in Section 26-17-6. This deep stuff in Richland, as in Webster, is going to be interesting.

Cotton Valley

Palmer corporation's No. 1 Sally Coyle, Section 28-21-10, in the Cotton Valley district of Webster Parish, was a good gasser in the deep area, approximately 30,000,000 feet at 1,375 pounds, total depth, 4,662 feet. Its wildcat in West Carroll Parish, No. 1 Marston, Section 12-19-10, cemented 6-inch at 2,303 feet after hitting the Monroe gas rock at 2,302 feet, 40 feet higher than they got it in No. 2 O'Brien, three-quarters of a mile east in Section 6-19-11. H. L. Hunt abandoned No. 1 Chickasaw Implement Co., Section 24-23-11 West Carroll, as a dry hole at 3,000 feet, contract depth. He got the top of the gas rock at 2,970 feet but it did not do him any good.

Arkansas Fuel Oil Co. has made location in Section 24-10-1e, LaSalle Parish, for the long discussed deep test in Urania. It is in Tullos Townsite but as there is no drilling obligation it is problematical when the tools will be put to work. It also has location for No. 1 Crossett Lumber Co., 330 feet south and east NW cor. Section 1-19-7, Ashley County, Arkansas, for the well it obligated itself to start on or before November 15 in leasing 16,000 acres of the lumber company's land. The block centers on the common corner of Townships 17 and 18, Ranges 6 and 7, and the well is scheduled to go deep. Houston Oil Co. has passed the pay in the Mount Holly district of Ouachita County with No. 1-B Wilson, Section 25-15-18, which is drilling red gumbo at 3,000 feet, almost 200 feet below where Mount Holly oil is coming from. In Champagnolle, Union County, Magnolia Petroleum Co. got 2,200,000 feet of gas at 2,715 feet in No. 1 Schmidt, Section 5-17-14, but went on and was coring at 2,735 feet on last report. McDonald Brothers, Union County wildcat, No. 1 Mayfield, in Section 29-19-15, shut down for about a year at 2,210 feet, is dropped from the report. Rovenger Oil Corp.'s last Champagnolle well, No. 3-B Perdue, Section 9-17-14, went on the beam pumping 50 bbls. initial, 50 per cent salt water, from 3,235 feet, after standing a month.

Revival of the shallow sand play in the Ouachita County angle of Smackover was productive of three completions. Phillips Petroleum Co.'s No. 2 Clayton, Section 34-15-15, pumped 120 bbls., 30 per cent salt water, from 2,019 feet, and J. D. Reynolds' No. 1 Fee, Section 27-15-15, did 20 bbls., 10 per cent water, from 2,047 feet. Skelly Oil Co.'s No. 1 Langley, Section 35-15-15, made 56 bbls. clean oil from 1,998 feet. All three were new holes from the grass roots.

Getting back to north Louisiana, E. R. Madding has taken 4,500 acres centering around Section 29-14-10, a mile or two northeast of Crichton in the old Bull Bayou district of Red River Parish, for a well to go 2,600 feet and is offering what remains of the block after assigning a large portion of it to the drilling contractors for the well, at $15 per acre with abstract.

EAST TEXAS

Panola and Bowie, border counties of East Texas, had three completions. One of them, Hooks Oil & Gas Co.'s No. 1 Roseberry in the L. T. King Survey of Bowie County, about 15 miles southeast of Texarkana, was dropped from the record as it had been carried as a fishing job for the past year and more and the rig has been moved piecemeal to another job meanwhile. Magnolia Petroleum Co. made a nice gasser of No. 1 Davenport in the Jesse Dunlap Survey of Panola County, gauging 25,280,000 feet at 1,150 pounds, total depth 2,825 feet, and Natural Gas Producing Co.'s No. 2 Mays, Jane Thorpe Survey, made 5,000,000 feet of gas, total depth 2,345 feet. Gulf Refining Co. has taken 3,500 acres in the Andrew McFadden Survey for a well to be begun on or before January 15, 1930.

CANADIAN FIELDS

(Continued from Page 54)

other knowledge as could be gained from previous work and from oil and water well records and mine openings.

"The Alberta Oil Refinery at Coutts gives a special rate on fuel to all oil wells for drilling purposes and will deliver in its own tank trucks. A dam on Red Creek would impound sufficient water for drilling.

"The topography of the area is of the prairie type and is shown very well on the Lethbridge sheet of the topographical survey. The altitude is about 3,650 feet. It rises gradually toward the northwestern part of the township to 4,250 feet. The most striking topographic feature of the district is the Sweetgrass Hills, which may be seen at a distance of about 25 miles.

"The Red Creek structure is one of the anticlinal folds plunging northward and rising to the southeast in the Kevin-Sunburst Dome of Montana. The possibility of an accumulation of oil in this structure is good. Preliminary measurements indicate that the Madison limestone to the northwest of the property drops in a northwesterly direction nearly 200 feet to the mile, but flattens near the western sides of Sections 3 and 11, Township 1-17w4, to about 50 feet to the mile, and that a northerly trending anticline exists near the boundary between Sections 1 and 2. . . . The basal sand of the Ellis formation is the principal producer in the Kevin-Sunburst Field, although some production has been secured at higher levels and lower depths. The approximate depth to the Madison limestone is believed to be 2,700 feet."

Turner Valley

In the Turner Valley Field eight tests are drilling in the lime horizon, including McLeod Oil Co.'s No. 1 which is deepening to restore production. Northwest Associated's No. 1, LSD 6, Section 20-19-2w5, the most recent deep lime producer in the south end of the field, has been troubled with further freezing, interrupting production for a couple of days; but has come back with a normal recovery between 300 and 400 bbls. a day.

Home Oil Co.'s No. 4, Section 20-19-2w5, drilling close to the lime around 5,420 feet, has encountered what looks like commercial production of light crude in the Dalhousie sands. This production may be taken for a time before the test is carried to the deep lime horizon; it is now being tested.

In the South Turner Valley, Royal Crest Oil Co.'s No. 1, LSD 5-6, Section 16-19-2w5, is standing cemented 10 feet in the lime at 4,322 feet. A new type rotary circulating oil instead of mud will be used to drill into production, with a device to register increase in gas pressure. Alberta Pacific Consolidated's No. 1, LSD 5, Section 20-19-2w5, is drilling at 4,080 feet after encountering shows of oil and gas between 4,060 and 4,070 feet. Alberta Pacific Consolidated Oils, Ltd., has arranged to materially extend its development work to other parts of Alberta. Under an arrangement just completed the company has exchanged 250,000 shares of treasury stock, to be held in escrow for three years, for a half interest in the leases of the Canadian Exploration Co. of Denver, which has been carrying on extensive geological reconnaissances of various Alberta structures. The Canadian Exploration Co. holds 50,000 acres on various structures. Alberta Pacific Consolidated obligates itself to a drilling program involving an outlay between $400,000 and $500,000 and requiring one test on each of five different structures, two tests to be started by next spring and the remaining three by August, 1930. No. 1 will be drilled on the Duvernay structure northeast of Edmonton; and No. 2 probably on the Brown Creek structure between Calgary and Nordegg. A third test will be drilled on the Parker Creek structure north of Calgary; while locations of the two other structures have not yet been made public. Reports that Alberta Pacific Consolidated is associated with Royal Dutch-Shell interests are officially denied by A. G. Clarke, managing director.

Mercury Oils' No. 1, LSD 13, Section 4-19-2w5, is around 3,780 feet, repairing, after striking a strong show of gas at 3,776 feet.

Lowered Into Well

Miracle Oil's No. 1, LSD 11, Section 4-19-2w5, is at 3,400 feet and repairing 120 feet of damaged surface casing. In connection with this work Bob Lindsay, one of the drillers, had the experience, unique in the Turner Valley Field, of being lowered into the well itself to investigate the damage. Lindsay volunteered to investigate the trouble. E.

Barrett Anti-Corrosion EVERY

Close-up of one method of applying Barrett Pipe Enamel—by revolving pipe. The pipe turns away from pouring operation and the pad held by operator on opposite side spreads the flow into an even coating.

At left is shown Barrett Pipe Enamel being applied by the "sling" method. The ready flow and instant adhesiveness of Barrett Pipe Enamel assure complete insulation against moisture no matter what method of application is chosen.

BARRETT ANTI-CORROSION SPECIFICATIONS

Barrett Pipe Line Primer — Barrett Pipe Line Felts
Barrett Pipe Enamel — Barrett Coupler Compound
Barrett Cold-Coater

BARRETT Anti-Corrosion Specifications are made to meet all the many different conditions of pipe line construction. They include re-enforced enamels for extreme conditions — rivers, swamps, etc., enamels to be applied hot in less corrosive sections; cold applications for still less corrosive regions.

Specifications *for pipe line protection problem..*

THE corrosive conditions which affect pipe lines have been carefully studied by The Barrett Company's engineers and other experts in developing and perfecting Barrett Anti-Corrosion Specifications.

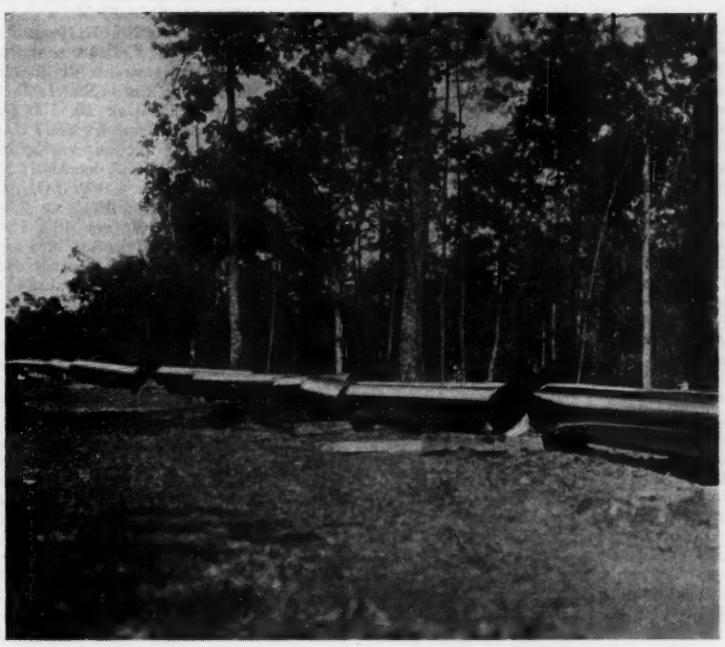
Chemical and physical characteristics of soils as determined by geologic and topographical or climatic conditions; depth of burial, drainage of trench; electrolysis—all these, and more, are taken into consideration. And the correct formula and methods of application are carefully worked out to combat each possible corrosive condition that may be met with in the field.

This is a part of the *Barrett Service and Inspection* that goes along with every pipe protection job. It is the outgrowth of *75 years' experience* in solving all manner of water-proofing and weather-proofing problems connected with nearly every kind of material. This is why Barrett Anti-Corrosion Specifications offer a service in this field just as Barrett Specification Roofs, Tarvia Roads, and Barrett Underground Waterproofings for tunnels, dams, subways, etc. have long done in theirs.

The water-proofing agents used with Barrett Anti-Corrosion Specifications are made from the finest coal-tar pitch. This well known water-proofing material is combined with special binders, solvents, etc.—prepared and applied under the most exacting Barrett specifications. Non-porous, non-absorbent, chemically inert, these coatings give positive protection against virtually every corrosive element or combination of elements. They adhere in a strong, unbroken film, assuring added years of uninterrupted service.

The Barrett Company is organized to give pipe line builders the closest and fullest co-operation from beginning to end of the pipe laying job.

For information on pipe line protection you are invited to phone, wire or write: The Barrett Company, New York



Barrett Anti-Corrosion Specifications include materials that are unexcelled rust preventives. The water-proofing agents used are poisonous to low forms of vegetable life and therefore effectually prevent mildew and rot, as well as other forms of corrosion.

Application of Barrett Coupler Compound is shown above. Barrett Coupler Compound is especially produced for couplers. It is made from identically the same materials as Barrett Pipe Enamel except that it is softer, with a lower melting point. It forms a heavy, elastic and durable coating at the joints between the follower ring and pipe surface.

The Barrett Company

40 Rector St., New York

Fluelling, caphead man, formerly a mate on a sailing ship, constructed a chair and Lindsay was carefully lowered through the 20-inch casing to a depth of about 100 feet A light was lowered and the driller made a careful inspection and was then hauled safely to the top.

Spray Oils' No. 1, LSD 9, Section 5-19-2w5, is drilling below 1,620 feet after encountering a show of crude oil at 1,610 feet. Merland Oils' No. 1, Section 27-18-2w5, is drilling in the Home sands at 4,100 feet wih shows of oil and gas. Commonwealth Petroleums' No. 2, LSD 7, Section 9-19-2w5, is drilling in the lower Dalhousies at 3,890 feet with shows of oil and gas.

Vancouver Pacific Oils, Ltd., has been incorporated with 1,000,000 no-par shares and office at Vancouver, British Columbia, and has located No. 1 well in LSD 14, Section 22-18-2w5. Directors are W. W. Helm, J. E. Merryfield, Jesse J. Kahn, A. F. Sinclair, A. G. Pearce, J. Lambe, and W. H. Griffin, all of Vancouver. Anaconda Oil Co., whose No. 1 test is being drilled in the North Turner Valley area, will probably start No. 2 in the south, or acquire an interest in a company operating there. Operations will be handled for the Anaconda company by the Oilwell Drilling & Finance Co. of Calgary.

Sioux City Oils' No. 1, LSD 10, Section 1-20-3w5, is reported drilling around 2,450 feet, after getting oil and gas shows at 2,410 feet. Freeman-Lundy Syndicate's No. 1, LSD 10, same section, is drilling at 4,120 feet after entering the Kootenays at 4,010 feet with a show of dark crude.

Two Producers

British Dominion Oil Development Corp.'s No. 2, LSD 6, Section 12-20-3w5, is at 5,041 feet, underreaming and carrying 6-inch casing, in the poker chip shales on the top of the lime. Considerable oil is coming from under the 6-inch casing, about 2,000 feet standing in the hole. Some 500 bbls. have been swabbed and delivered to the Imperial refinery. Widney Petroleums' No. 1, LSD 11, same section, is at 3,210 feet with what looks like a fair light crude production from the Dakota sands. Tanks have been erected and between 600 and 700 feet of oil will be bailed; this production will then be shut off and drilling and underreaming continued till the bit leaves the McDougall sands. Drilling will be carried to the deep lime horizon, and later the shallower production, estimated 50 bbls. a day, may be taken. Contract has been let for a 4-inch water line to be sunk below the frost level from Sheep Creek to the Widney, New McDougall-Segur and British Dominion wells.

In North Turner Valley, Spooner Oils' No. 2, Section 24-20-3w5, is making a steady production between 60 and 65 bbls. a day. United Oils' No. 5, LSD 2, same section, is working on derrick. United's No. 4, same LSD, is swabbing and will be put on steady production.

Invader Oils' No. 1, LSD 10, Section 9-21-3w5, got the top of the Dakotas at 2,440 feet with shows of crude oil, and is drilling around 2,550 feet. The oil is a typical Turner Valley light crude.

Outwest Petroleums' No. 1, LSD 5, Section 35-19-3w5, has resumed at 3,400 feet after installing new cable. A fault was encountered at 3,385 feet, which renders the formations uncertain, but it has been decided to carry the test at least 1,000 feet deeper

Sinclair-Highwood Area

In the Sinclair-Highwood area, Hudson's Bay-Marland Oil Co.'s No. 1, Section 8-18-3w5, is resuming at 850 feet after repairing a broken beam. Western Alberta Oil Co.'s No. 1, LSD 11, Section 7-17-2w5, is drilling in the Kootenays at 1,630 feet after encountering a fair gas show at 1,605 feet. The well started drilling in the Kootenays and seems likely to be around 1,000 feet shallower than wells in the Turner Valley area to the north. The company holds 960 acres on the Highwood structure. Warner Oils' No. 3, LSD 4, Section 28-18-3w5, is reported spudded in. This test offsets the abandoned No. 2.

In the Waite Valley area, Anglo-Pacific Oils' No. 1, is working on derrick.

In the Moose Mountain area Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is drilling 12½-inch hole below 2,670 feet after encountering a stray sand in the Dakotas with a small show of crude.

In the Morley Reserve area, Wabash Oils' No. 1, is drilling in the Devonian limestone at 2,795 feet. This test, which got the Madison at 1,483 feet, entered the Devonian at 2,790 feet. Some small gas shows were encountered in the Madison, at depths corresponding to the two producing horizons encountered in McLeod's No. 4 in the Turner Valley; but there was not enough wet gas to make commercial production. In the same area, Norcon Oil Co.'s No. 1 is reaming out to 1,593 feet to lower casing from 1,400 feet; another small gas show has been met in the McDougall-Segur sand.

On the Moose Dome, Moose Oils' No. 1, LSD 16, Section 29-22-6w5, is drilling in the Devonian limestone at 720 feet; this test, which started in the Madison limestone, entered the Devonian at 550 feet, and has about 500,000 feet of gas.

Skiff Field

In the Skiff Field, southern Alberta, Dauntless Oils' No. 1, LSD 9, Section 36-6-15w4, is reported at 3,260 feet and running casing after encountering a sand in the Ellis that yielded a good oil-saturated core. As soon as casing is cemented, a production test will be made. A small production, possibly commercial, was previously encountered in the Sunburst sand at 3,024 feet, but the hole was deepened for a thorough test.

On the Beaver Dome, Milk River Oils' No. 1, Section 11-2-11w4, is getting ready to rig up. It is reported that Altamont Oil Co. and Sweetgrass Development Co. will also drill in this area. On the Blood Reserve, Lethbridge Petroleum & Refineries, Ltd., is drilling its third core drill test.

Benton Oils, Ltd., which is preparing to develop acreage west of Lethbridge as a subsidiary of the Shaw Oil Corp. of Canada, has completed organization with the following officers: Chairman of the board, F. G. Shaw; president and managing director, W. B. Frieden; vice president, Senator D. E. Riley; secretary and field manager, Isaac Saunders; directors A. J. McLean, McLeod; W. T. Henry, Edmonton; G. A. Trainer, Calgary.

In the Taber district, Cole English Syndicate's No. 1 Taber, LSD 3, Section 11-10-17w4, is drilling below 700 feet, after encountering a show of gas between 650 and 675 feet.

In the Acadia Valley near Oyen, Fuego Oils' No. 1, Section 34-25-4w4, is reported increasing boilers to cement off caving and water which followed the second oil show at 3,163 feet.

In the Chin area, Chinalta Petroleums' No. 1, LSD 5, Section 33-8-18w4, is cleaning out preparatory to resuming at 2,260 feet. This test was last year carried to 2,260 feet by Lethalta Oils, Ltd., which then discontinued operations. Location is 18 miles due east of Lethbridge. The well got gas shows at 624, 693 and 2,066 feet, the third show being the best. The Chinalta company is planning to continue drilling about 1,000 feet to the Ellis-Madison contact. Officers of Chinalta Petroleums, Ltd., are: president, D. Y. McNair, Lethbridge; vice president and managing director, James Ryan, Calgary; directors, H. W. Church, Lethbridge; John Sparrow, Thomas Corwin, Robert Anderson, Calgary; secretary-treasurer, Harry Humble, Calgary.

In the Cypress Hills area, Eagle Butte Oil Co.'s No. 2, Section 30-7-3w4, is working on derrick.

Wainwright Field

For the Wainwright Field, the first official production figures show deliveries of 1,424 bbls. for August. This production was delivered to the local refineries. Several new wells are expected to be in production before the end of the present month.

Blair & Stevens' No. 1, Section 12-47-7w4, is working on derrick. Oil Selections' No. 1, LSD 13, Section 2-46-7w4, is building derrick and camp. Hargal Oils' No. 1 British Petroleum, LSD 11, Section 36-45-6w4, has been definitely abandoned; this was the first rotary test in the Wainwright Field being drilled some years ago by British Petroleums, Ltd. It got some gas at 2,058 feet, and led to the drilling of No 2, which first opened the Wainwright oil sand. Hargal's British Petroleum No. 4, which has some oil and gas at 2,073 feet, is erecting new derrick.

Beaumont Oils' No. 1, Section 2-45-7w4, which has an estimated production of 50 bbls. a day at 2,183 feet, is being put on the pump. Beaumont's No. 2, LSD 10, Section 30-45-7w4, is rigged up with gas line laid and waiting for water supply. Wainwright Petroleums' No. 1, LSD 6, Section 30-45-6w4, is rigged up ready to spud in. Weymarn Petroleums' Ltd. is core drilling with two outfits in Township 47-5w4. Alberta Oil & Gas Co. has secured acreage and has had its geologist, A. Kimnetzer, examining structure.

Maple Leaf Oil & Gas Co.'s No. 2, LSD 1, Section 24-45-8w4, has finished a gasser at 1,780 feet good for 15,000,000 feet. Production will be delivered to Wainwright Gas Co. for distribution in the town of Wainwright.

City Holds Reserve

In the vicinity of Vegreville, Alberta, arrangements have been made by the municipality for development of its oil and gas reserve of 16,640 acres. Oil and gas rights on this acreage were set aside for the town by the Dominion Government in 1921, in recognition of efforts by the municipality in 1912 to develop a natural gas supply. In that year a municipal well was sunk in the north part of Vegreville to around 2,000 feet depth and some gas production encountered. The gas was thought sufficient for the town's purposes and gas mains laid for lighting; but later caving blocked the well, and, owing to financial conditions resulting from the war, the enterprise was abandoned. After the war interest was revived but expert advice favored drilling a new well instead of cleaning out the old one. At that time the government set aside the reserve for the municipality. Under the arrangement now being considered the oil and gas rights will be assigned to private interests in consideration of active development by the grantees who will also receive an exclusive franchise to supply gas to Vegreville for both domestic and industrial purposes.

Northwest of Calgary, development is being planned on the Bearberry Creek structure by the Bearberry Creek Oil & Refining Co., recently incorporated at Vancouver, British Columbia. The company has secured some 5,000 acres in Townships 32 and 33, Range 7, as well as 200 acres near Castor. A test drilled in 1914 by the Mount Stephen Oil & Gas Co. in Township 32-7w5, got a gas flow of 750,000 feet a day. Acreage is north of the Monarch structure and on a different anticline. No. 1 test has been tentatively located in Section 18-33-7w5, and it will likely be carried to the Madison limestone horizon unless commercial production is encountered sooner.

Young Petroleums, Ltd. is planning to drill near Castor. Negotiations have been started for a franchise to supply natural gas to Castor, and No. 1 test will be drilled near that town.

A shallow gas flow was recently struck at 90 feet depth on the Jack Gray farm, 9 miles northwest of the center of Calgary. The flow was encountered in a water well. A formation was struck which the light drill could not penetrate, and a shot was made with 10 sticks of dynamite, the gas production resulting.

In Saskatchewan, Simpson Oil Co. is preparing to resume drilling at 2,200 feet on No. 2 well. Some oil and gas indications were met just before the rest shut down. O. L. Etter of Imperial, Saskatchewan, has been elected president in succession to H. H. Collins.

Ontario

In Ontario the James Bay Oil Co., drilling in the James Bay district, is reported making good headway. Location is on the Gray Goose Islands in the Abitibi River. The drill is penetrating alernate layers of limestone and blue and red shales, and it is claimed prospects are good for production at shallow depth. A large flow of salt water was met at 300 feet, but this was cased off and drilling continued.

SOUTHWEST TEXAS

(Continued from Page 55)

S. & O. Oil Co.'s No. 7 Hahl, Survey 250, 450 feet south line, 150 feet west line, derrick; No. 9 Hahl, Survey 250, Block 22, 450 feet north line, 150 feet west line, location.

Randado Field—Jim Hogg

Randado Oil Corp.'s No. 35 Palacious, Survey 291, Block 2, 150 feet south line, 450 feet east line, is standing at 100 feet. Magnolia Petroleum Co.'s No. 1 N. Hinnant, Survey 20, Block 1, 600 feet north and west lines, drilling 1,157 feet; No. 1 Weil, Survey 5, Block 2, 660 feet north line, 349 feet east line, location.

Henne-Winch and Farriss Field

George S. Marshall's No. 4 Holbien, Survey 11, Block 10, Share 3, 150 feet south and west lines, derrick; No. 5 Holbien, Share 3, Block 10, Survey 15, 150 feet north and west lines, rigging up. O. W. Killam's No. 1 J. G. Martinez, Survey 2 550 feet west line, 150 feet south line, derrick.

Schott Field—Webb

Livingston & Payne's No. 1 Guerra-Ochoa, Survey 58, 917 feet east line, 476 feet south line, at 1,649 feet tested oil, cleaning out hole, preparing to set casing.

Mid-Ojuelos Field

Crown Petroleum Co.'s No. 2 E. Garcia, Survey 463, Block 2, 330 feet north line, 660 feet east line, drilling at 1,200 feet.

Carolina-Texas Field

Carolina-Texas Oil & Gas Co.'s No. 8 Benavides, Survey 683, Block 12, 450 feet west line, 150 feet south line, has resumed drilling. W. R. Shankle's No. 2 Webster, Survey 684, 1,170 feet west line, 150 feet south line, rigging up.

Magnolia-Cole Field

Cole Petroleum Co.'s No. 67 Benavides, Survey 412, Block 12, 313 feet east line, 160 feet north line, standing at 38 feet. Magnolia Petroleum Co.'s No. 1 J. G. Valdez, Survey 754, Block 15, 150 feet south and west lines, derrick; No. 1 J. C. Valdez, Survey 754, 330 feet north line, 660 feet east line, Block 2, location; No. 1 A. Benavides, Survey 660, 660 feet south and east lines, drilling at 2,342 feet; No. 1 S. Perez, Survey 460, 1,980 feet north line, 660 feet west line, location; No. 2 King-Harper, Survey 323, Block 2, 660 feet north and east lines, location.

Cole Gas Field

Co-Operative Drilling Co.'s No. 3 Dinn, NE NW Survey 454, 60 feet west line, 450 feet south line, location. Houston Oil Co.'s No. 2-G R. Benavides, Survey 701, 666 feet south line, 666 feet east line, location. No. 2-D Benavides, Survey 753, Block 5, 566 feet north line, 666 feet east line, derrick. J. J. O'Hern's No. 2 Valdez, SW NE Survey 754, located 663 feet north line, 667 feet east line, rigging up. No. 2 Benavides, Survey 694, Block 5, located 450 feet south line, 150 feet west line, moving on. O. W. Killam's No. 13 Bruni, Share 3, 491 feet southwest line, 200 feet southeast lines, Block 1, drilling 1,371 feet. No. 14 Bruni, Share 5, Block 11, located 150 feet northwest lines and southwest lines, derrick. Magnolia Petroleum Co.'s No. 1 D. Benavides, Survey 694, 660 feet south and east lines, location.

Charco-Redondo—Zapata

Loyal Oil Co.'s No. 17 J. G. Martinez, C. Redondo, 600 feet northeast line of No. 10, location. No. 18 J. G. Martinez, C. Redondo Survey, 300 feet northwest of No. 17, location. No. 19 J. G. Martinez, C. Redondo Survey, 300 feet north of No. 15, location.

Jennings Field

Blair & Acklin's No. 2 Trevino, Survey 66, Block 1, 150 feet west line, 190 feet north line, drilling 450 feet. Blankenship and others' No. 1 Trevino, Survey 413, 2,480 feet south and east lines, location. No. 1 Garza, Survey 64, Block 7, 150 feet north and east lines, drilling 50 feet. Evans and others' No. 1 Trevino, Survey 62, 1,490 feet north line and west line, coring at 1,300 feet. Killam-

Duggan's No. 7 Cuellar, Survey 277, 2,840 feet east line, 1,650 feet south line, spudded in. O. W. Killam's No. 2 Flores, Survey 110, 1,565 feet east line, 150 feet north line, derrick. No. 17 Cuellar, location. South Texas Production Co.'s No. 1 Roy Jennings, Mira Flores Grant, 18,055 feet southwest lines, 11,040 feet southeast lines, drilling at 3,280 feet. No. 6 Joe Jennings, Cerrito Blanco Grant, 2,640 feet southeast lines, 660 feet northeast lines, location.

Joe Bruner Field—Caldwell

Humble Oil & Refining Co.'s No. 5-A Briscoe, J. Hinds Survey, 206 feet north line, 485 feet west line, is drilling at 2,477 feet in lime. No. 9 C. F. Dye, 300 feet east of No. 2, abandoned location. No. 9-C Floy Gray, rigging up. No. 7-A Johnson, derrick up. Magnolia Petroleum Co.'s No. 2 Merriweather, A. Floyd Survey, 150 feet northwest and northeast lines, drilling at 2,600 feet.

Buchanan Field

Newman & Speer Inc.'s No. 1 McConnell, 900 feet southwest of The Texas Company's No. 1 Cyde, is drilling at 165 feet.

Darst Creek Field—Guadalupe

Gulf Production Co.'s No. 1 C. Anderson, J. C. Darst Survey, 150 feet south and east lines, location. No. 1 Tadlock, J. C. Darst Survey, 150 feet northwest corner, location. Magnolia Petroleum Co.'s No. 1 R. C. Appling, James Hodges Survey, 150 feet west and south lines, took saturated core at 2,535 feet in marl and is setting casing to complete. The Texas Company's No. 2 Dallas Wilson, J. C. Darst Survey, 150 feet south and west lines, has derrick up. No. 2 L. Anderson, 150 feet northeast corner, is shut down at 685 feet. No. 3 L. Anderson, 150 feet north and west lines, location. No. 4 L. Anderson, derrick up.

Kingsville Field—Kleberg

Humble Oil & Refining Co.'s No. 8 R. J. Kleberg, Section 40, Lot 7, located 150 feet south and east lines, is location.

Cartwright Field—Live Oak

Houston Oil Co.'s No. 2 J. B. Dunning, M. B. Kivlin Survey, 1,445 feet north of No. 1 is drilling at 1,550 feet in tough gumbo.

Rockdale Field—Milam

Texas Petroleum Development Co.'s No. 1 Milton Phillips, J. J. Chambers Survey, 600 feet north of No. 14, is drilling at 3,466 feet in Georgetown lime.

Agua Dulce Field—Nueces

Agua Dulce Oil & Gas Co.'s No. 2 Bessie Kerr, Section 36, located 900 feet north line, 1,762 feet west line, is setting casing at 450 feet. No. 2 Saunders, Section 35, 150 feet from south and east lines, set casing at 1,972 feet, total depth 1,979 feet in sand showing gas.

White Point—San Patricio

LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, J. C. White Survey, 690 feet from north line and 350 feet from east line, is rigged up and shut down. Spencer & Rhoades' No. 2 Texas Company fee, Lot 6, Roos Subdivision, 150 feet south and west lines, is standing after erecting derrick.

Nursery Field—Victoria

Humble Oil & Refining Co.'s No. 3-A J. J. Welder, DL&C Survey, 1,634 feet southeast lines, 736 feet southwest lines, is drilling at 5,225 feet.

COMPLETIONS

Duval County

Humble Oil & Refining Co.'s No. 33 Kohler, Survey 164, completed 1,796 feet, total depth, for 15,000,000 feet of gas.

Magnolia Petroleum Co.'s No. 8 Hahl, Survey 250, Block 24, completed at 2,338 feet for 75 bbls. initial.

Refugio County

Marshall Eskridge's No. 1 J. F. B. Heard completed 3,700 feet flowing 350 bbls., was drilled by mistake on lease of Mission Drilling Co., who paid cost of drilling well which has been turned over to them.

Houston Oil Co.'s No. 6 W. Heard completed 3,686 feet for 500 bbls. initial through quarter-inch choke with 1,100 pounds rock pressure.

Dr. H. E. Hewitt's No. 1 Cemetery completed 3,674 feet for 400 bbls. with 900 pounds rock pressure.

Houston Oil Co.'s No. 12 Fannie V. W. Heard completed a gas well at 3,795 feet.

Houston Oil Co.'s No. 8 W. Heard, completed 3,686 feet for 500 bbls. with 1,100 pounds rock pressure.

Maverick County

Rycade Oil Corp.'s No. 3 Chittim, Section 116, Block 7, I.&G.N. Survey, completed 5,611 feet for 9,750,000 feet of gas and 20 bbls. light oil.

Nueces County

Agua Dulce Oil & Gas Co.'s No. 2 O. Wolters, Section 34, completed 1,978 feet, gas well estimated 80,000,000 feet.

Webb County

Magnolia Petroleum Co.'s No. 1 A. Benavides, Survey 694, Block 14, completed 2,347 feet, 30,000,000-foot gas well.

John J. O'Hern's No. 2 Benavides, Survey 694, Block 5, completed 2,322 feet, 40,000,000-foot gas well.

Zapata County

Killam-Duggan's No. 8 Cuellar, Survey 277, completed 1,604 feet total depth, flowing 600 bbls.

ABANDONED TESTS

Brooks County

Milam Drilling Co.'s No. 6 Riley Allen, core test, abandoned 1,258 feet.

Caldwell County

John T. Callahan and others' No. 1 W. Ellison, William House Survey, abandoned 2,750 feet.

T. C. Hadley's No. 1 J. M. Hanson, James Hinds Survey, abandoned 2,640 feet.

Smi-Lock Oil Co.'s No. 1 D. Munster, Silas Feugua Survey, abandoned 3,380 feet.

Refugio County

Jack Myers' (Blanco Creek Oil Co.) No. 1 St. John, J. Scott Survey, abandoned 3,700 feet.

San Patricio County

Magnolia Petroleum Co.'s No. 1 C. Freeman, Section 57, abandoned 5,526 feet.

Houston Gulf Gas Co.'s No. 3 Welder, abandoned 5 098 feet. dry.

NEW LOCATIONS

Bastrop County

Superior Oil Co.'s No. 1-A W. D. Ramsey, G. T. Glasscock Survey, 150 feet northwest lines, 840 feet southwest lines, location.

Brooks County

Houston Oil Co.'s No. 2 Lasater, 1,000 feet south of No. 1, derrick up.

Bee County

The Texas Company's No. 1 G. C. Ruhman, C. Maetinez Survey, 150 feet south and east lines, drilling 800 feet in gumbo.

Bexar County

W. C. Sutherland's No. 1 J. Halberdier, Survey 57, located 150 feet east of CWL, location.

Caldwell County

G. R. McIntire's No. 1 J. G. Towns, I. Weldon Survey, 150 feet east line, 270 feet south line, location.

Duval County

Trussell & Partee's No. 1 E. R. Hagist, Survey 271, Block 7, located 450 feet east line, 750 feet south line, drilling 200 feet.

Jim Hogg County

L. M. Holden's No. 4 Jones, Share 5, set 42 feet of 10-inch casing.

R. E. Moore's No. 1 Yzaquirre, Porcion B, Share 3, drilling 100 feet.

T. J. Conway's No. 4 Leyendecker, Survey 234, Block 9, located 150 feet south and east lines, rigging up.

Kinney County

A. Blume's No. 1 Uvalde School Land, Section 15, spudded in.

Live Oak County

Simmons Oil Co.'s No. 1 Richard Coquat, building derrick.

Nueces County

H. Grimm and others' No. 1 A. R. Roberts, center Block 79, rigging up.

Agua Dulce Oil & Gas Co. and Houston Gulf Gas Co.'s No. 1 Ollie Purl, Section 6, location.

Refugio County

Marshall Eskridge's No. 1 J. F. B. Heard, location.

Webb County

Rycade Oil Co.'s No. 10 Yeager-Strohman, Share 5, located 150 feet south line, 200 feet east line, spudded in.

Val Verde County

A. Blume, Survey 32, Block 3, I.&G.N. Survey, location in southeast corner of county.

Zavala County

C. M. P. Co.'s No. 1 fee, east of La Pryor, drilling below 1,000 feet with sand at 800 feet carrying gas.

Capt. Alvin Anglin and George E. Smith's No. 1 Johnnie Davidson, southwest of Batesville, drilling.

Zapata County

Killam-Duggan's No. 9 Cuellar, Survey 277, located 3,040 feet east line, 310 feet south line, drilling 150 feet.

ZWOLLE WELLS UNIQUE; THEY INCREASE OUTPUT

(Continued from Page 58)

creased until now it is at the vanishing point. Tubing has been pulled and the hole cleaned once.

Greater Increase

A west offset to the discovery, No. 4 Bowman-Hicks, went on the beam October 6 pumping 75 bbls. of oil and 38 bbls. of salt water from a total depth of 2,350 feet and is now, a week later, pumping 100 bbls. with about 25 bbls. of water, the rate of increase being considerably greater than in the other two wells. This was not entirely unexpected as it was evident while standardizing that it had considerably more gas, making several heads through the 8¼-inch casing, amounting to as much as 75 bbls. No. 3, however, as it pumped, developed more gas, enough to fire the boiler on No. 4, and it is expected that the latter also will show more gas the longer it pumps.

These wells are owned by Walter E. Cooke of Patterson, N. J., and are on locations made by H. D. Easton, geologist, of Shreveport, and were drilled by R. L. Gay under his supervision, the two having stuck to the Zwolle district through six or seven years of the average wildcatter's average experience. The first substantial encouragement they received was in the old No. 5 Bowman-Hicks (drilled by L. M. Emlet for Cooke) in Section 9-7-12, which showed for 50 bbls. of 40 gravity crude from a total depth of 2,515 feet with the bottom in 12 feet of pay but was eventually lost. Altogether, between Emlet and Gay, a dozen or so deep and shallow tests were drilled before commercial production was obtained in the Zwolle district which now, because of the performance of these three producers, is attracting the serious attention of some of the major companies

Mr. Easton accounts for the usual behavior of these wells by saying that they are in the chalk rock which is slightly faulted, cores showing slick sides, cracks and crevices, calcite crystals of large size, etc. The discovery well got its pay in a sand resting directly on the chalk rock and at is total depth had penetrated the chalk only a foot or two. No. 3 bailed dry in this zone, made 12 feet of solid chalk and then 20 feet of soft broken chalk carrying the oil and gas, the bottom at 2,178 feet being in chalk. No. 4 gave no showing in the zone overlying the chalk and none in the chalk at the depth of No. 3, so went on into the chalk before bailing. After drilling 34 feet of gummy shale and reaching 2,350 feet it made large shows of oil and gas and was bailed in, there being just not enough gas to make it flow steadily.

Make Large Shows

Before any of these wells were drilled a prospect hole known as No. 7-B Bowman-Hicks had gone to 4,003 feet and made large shows in the chilk rock and nearer its base than in either of the present wells. It is a case of finding a pay in any patch of sand resting on the chalk, or in any breaks at any depth through the 550 feet of hard but fractured chalk. The pay in the discovery well was given paleontological designation as Nacatoch, but it is apparent there is no Nacatoch present and that any such sand will receive its pay from the chalk through which it has migrated by means of cracks, collecting above the main bed of chalk.

This new pool is about 75 miles due south of Shreveport and on the southwest end of the Sabine uplift. Nearest production is in the Pleasant Hill Pool 20 miles northeast from which Standard Oil has laid a 4-inch line to handle this high grade oil. In Mr. Easton's opinion this is a very large structure beginning east of the town of Zwolle and extending west into Texas. On his location, Gay is drilling No. 1 Long-Bell in Section 26-8-14, 5 miles north of the three producers, and has a show of oil and gas in the Washita formation of the lower Cretaceous and is arranging to set casing at 3,369 feet for a test to 3,414 feet. General correlations show that the Washita rests upon the Trinity and that the Fredricksburg is cut out in that area. The base of the Washita, where showings in Gay's Long-Bell and A. H. Tarver's No. 1 Long-Bell, 3 miles east in Section 29-8-13, were tested, is considered a favorable zone, but Mr. Easton has always advocated testing the Trinity, which would be relatively shallow drilling—say less than 5,000 feet for total depth.

Gay is drilling a deep test southwest of his producers, in Section 23-7-14, and entered the lower Cretaceous at 3,533 feet. There is a greater interval between th bottom of the chalk rock and the lower Cretaceous in this well than in the Long-Bell wells mentioned. He also is rigging up for No. 5 Bowman-Hicks as a south offset to the discovery well and is drilling below 1,000 feet on No. 1-A Bowman-Hicks in Section 34-8-12, east of Zwolle and approximately 12 miles east of the three producers on another Easton location, which is to be a deep test.

MUSKEGON FIELDS

(Continued from Page 58)

ship, and is one of four active Kent County wildcats. It was shut down after striking the show.

Paul Schulte's No. 1 Thomas Blanchard, SW SW, Section 30-10-10, Nelson Township, near Cedar Springs, is now the deepest test in the county at more than 3,600 feet.

Two other wells are not deep enough for production. They are Lang and Shriver's No. 1 Schondelmayer, SE Section 36-5-10, Caledonia Township, and Dillon and McFrederick's No. 1 James Bullis, NE NW, Section 28-8-10, Ada Township, near the village of Ada.

The Wiser Oil Co.'s No. 1 Humphrey, NW NW Section 21-1n-11w, Gunplain Township, Allegan County, near the village of Plainwell, was dry in the Traverse, striking water at 1,725 feet.

Drillers are running a $5\frac{3}{16}$-inch casing at 2,358 feet, 3 feet in the Trenton rock, in the Bi-County Fuel & Gas Co.'s No. 1 Emanuel Home, SE NE Section 34-2s-17w, Covert Township, Van Buren County, near Watervliet.

Royal R. Miller and associates are making a new location in Cass County to be drilled by the Blair Petroleum Co. Two other wells are drilling in the southwestern section of the State in Allegan and Kalamazoo Counties, respectively. They are Reid and Mackay, Norris & Smith's No. 1 Caldwell, NW SW Section 32-1s-12w, Alamo Township, Kalamazoo County; and Manion & Thomas' No. 1 Tobin, SW NW SE Section 16-2n-13w, Allegan Township, Allegan County.

Average Daily Production

Average daily production of three Michigan oil fields increased nearly 1,000 bbls. for the week ending October 21, at 7 a.m.

Increase in daily production of the Mount Pleasant Field accounted for considerably more than the net increase for the State as Dundee production of the Muskegon Field dropped 400 bbls. a day. The old Saginaw Field increased 20 bbls. a day so that together with the Mount Pleasant and Saginaw Fields almost completely offset the drop of 380 bbls. in the total output of the Muskegon Field.

The increase from 17,860 bbls., the daily average for the previous week, to 18,840 bbls. for the week ending today set a new high record for Michigan production during the past two months since

the flush has been off the Muskegon Field.

Muskegon Dundee wells produced 9,900 bbls. a day and Traverse wells made 700 bbls. a day, a daily average of 10,600 bbls. This is 380 bbls. a day less than last week when the average was 10,980 bbls. with 10,300 bbls. of Dundee and 680 bbls. of Traverse.

An increase of 1,340 bbls. a day was registered by the Mount Pleasant Field which reached a new high daily average of exactly 8,000 bbls. The average last week was 6,660 bbls. a day with 6,600 bbls. of Dundee and 60 bbls. of Traverse oil. This week's average was 7,900 bbls. of Dundee and 100 bbls. a day of Traverse.

The Saginaw Field produced an average of 240 bbls. of Traverse oil daily, compared with 200 bbls. a day last week. The total production for the week was 131,880 bbls.

A flow of 150 bbls. of oil daily in the Traverse formation has been struck in the E. Brown Development Co.'s No. 1 James Brown, NE NE, Section 3-14n-3w, Chippewa Township, Isabella County, fully 2 miles northwest of the present proven Mount Pleasant Field limits. First oil was struck in this semiwildcat at 660 feet. Drillers found 15 feet of pay sand at this shallow depth which they estimated would have made 15 bbls. a day of 32 gravity oil had it been shot. Upper Traverse pay sands had a show at 2,915 feet and additional pay struck at about 3,250 feet in the lower Traverse pay sands resulted in the 150-bbl. flow. The well will be carried to the Dundee and produced from two horizons.

Increased production of the Muskegon Field during the past week is attributable to better operation of old wells rather than to new completions. Operators are in the process of installing power units to pump from one to as high as 20 wells. It is believed production will remain steady at its present level of about 10,000 bbls. a day for some time. As producing wells slowly decline in flow, others which have been shut down temporarily to install pumping units, or have ceased flowing because they are clogged with paraffin, are restored to production.

During the week ending Saturday, September 12, there was a net increase of two producing oil wells and two dry gas wells, all located in Muskegon Township. The total number of completed oil or gas wells, dry holes or abandoned locations increased from 408 to 412 in Muskegon and Laketon Townships.

There were no new locations in Muskegon County nor in the adjoining western Michigan counties of Ottawa, Newaygo, Kent and Oceana, but the total of completed wells, drilling wells and locations for the western Michigan area included in these five counties is now 601.

Drilling activity in Muskegon continued at the same pace or better with 20 drilling wells, 4 wells spudding and 4 rigging, or 28 active rigs. Most of the activity is in the older Muskegon Township part of the field with 23 or the 28 active rigs located there. A majority of the proposed deep tests will be located in the proven area in Muskegon Township.

KANSAS FIELDS

(Continued from Page 52)

ler, NE cor. SE NE Section 19-26-5, has been completed for 100 bbls. in sand 2,536-2,617 feet. No. 4 Hutchinson "A," SW cor. NW NE Section 34-27-5, is a dry hole at 3,172 feet. No. 5 Hutchinson "A," NW cor. SW NE, Section 34-27-5 has been completed for 125 bbls. in sand 2,694-2,726 feet. Aladdin Petroleum Co.'s No. 1 Sharron, SE cor. NW Section 24-27-3, made 50 bbls. at 3,068 feet. Johnson and others' No. 2 Budles, SW cor. NE Section 8-27-6, made 40 bbls. in sand 2,754-64 feet. Lewis Production Co.'s No. 1 Lill, SE cor. Section 18-27-7, has been abandoned at 3,204 feet. The Prairie Oil & Gas Co.'s No. 1 Lanier, NE cor. SW Section 34-29-5, has been abandoned at 3,258 feet.

Chase County

Selby Oil & Gas Co. has the rig up for No. 3 Hartley, NE cor. SE Section 35-22-9.

Chautauqua County

Griffin & Bell's No. 6 Oliver, CWL SE Section 1-32-10. is rigging up.

Clay County

Crystal Oil Co. has the rig on the ground for No. 1 Fievier, SW cor. Section 19-8-2.

Coffey County

Shaffer & Howell made location for No. 1 Leavering, CSL SE Section 12-23-14.

Cowley County

Roth & Faurot's No. 1 Reidy, NE cor. SE Section 31-31-8, is a machine. Hull and others' No. 7 Bartlow, SE cor. NW NW Section 19-32-5, is rigging up. Shawver and others' No. 2 Liggett, SE cor. NW NW Section 15-31-3, is dry and abandoned at 3,160 feet. The Prairie Oil & Gas Co.'s No. 1 Demott, SW cor. NE Section 14-34-4, is a dry hole at 3,710 feet.

Edwards County

Dixie Oil Co. and Amerada Petroleum Corp. moved the rig in for No. 1 McCarthy, SW cor. Section 22-25-17w.

Ellis County

Barnsdall Oil Co. made location for No. 2 S. Johnson, SE cor. NE SW Section 9-13-19w. Phillips Petroleum Co.'s No. 1 Berjo, SE cor. NW Section 9-13-19w, has been completed for 125 bbls. in sand 3,592-3,609 feet.

Graham County

Gulf Coast and others' rig is up for No. 2 St. John, CNL S half SE Section 27-8-25w.

Elk County

Home Oil & Gas Co.'s No. 1 Lister, C NW NW Section 13-31-9, is rigging up. Kemper & Tory's No. 1 Goss, NW cor. Section 10-31-10, is rigging up. Pure Oil Co.'s No. 5 Chaffine, NW cor. SE Section 14-31-10, is drilling at 1,350 feet. Minnehoma Oil Co. and Murphy's No. 3 Ferguson, C NW SW Section 31-31-8, has been completed for 1,150 bbls. in sand 1,930-52 feet. Sherman and others' No. 1 McSpadden, NW cor. NE Section 4-31-10, is dry and abandoned at 2,138 feet.

Greenwood County

Empire Oil & Refining Co.'s No. 2 Norton "C" is a location, NW cor. SE NE Section 22-22-12. Derby Oil Co. made location for No. 1 Walter, NE cor. NW NW Section 21-22-13. Marshall and others staked location for No. 1 Ott, SE cor. SW SW Section 12-24-11. Houston-Oklahoma Oil Co.'s No. 1 School land, SW cor. NE Section 11-24-12, is drilling at 800 feet. Sheedy and others' No. 3 Sharp, NW cor. NE SE Section 5-24-13, is drilling at 400 feet. Waltom Oil Co.'s No. 1 Barnes, SW cor. NW NW Section 7-24-13, is drilling at 760 feet. Derby Oil Co. and others made location for No. 1 Albans, SW cor. SE SE Section 8-24-13. National Refining Co. made location for No. 1 Barrier, NW cor. SW Section 13-25-9. Bisagno and others' No. 3 Ralston, CSL SW NE Section 9-25-13.

Empire Oil & Refining Co.'s No. 1 Norton "C," NE cor. SW NE Section 22-22-12, has been completed for 170 bbls. in sand 1,701-16 feet. Sullivan and others' No. 1 Broun, SW cor. SE Section 14-23-11, is dry and abandoned at 1,940 feet. Simmons & Rhodes' No. 2 Patterson, NW cor. SW SW Section 22-23-11, has been completed for 250 bbls. in sand 1,940-80 feet. Mid-Continent Petroleum Co.'s No. 5 Hout, SW cor. SE SW Section 11-24-12, has been completed for 50 bbls. in sand 1,712-25 feet. The Prairie Oil & Gas Co.'s No. 4 Johnson, SW cor. Section 14-24-12, made 77 bbls. in sand 1,680-93 feet. Empire Oil & Refining Co.'s No. 4 Hoggart, NW cor. SE NW Section 9-25-13, has been completed for 120 bbls. in sand 1,509-34 feet.

McPherson County

Empire Oil & Refining Co. made location for No. 2 Voshell, SE cor. NE Section 9-21-3w. Sinclair Oil & Gas Co. is erecting the rig for No. 1 Voshell, NW cor. Section 10-21-3w. Location has been made for No. 2 Voshell, SW cor. NW Section 10-21-3w. Derby Oil Co. staked location for No. 2 Stuckey, NE cor. SE SE Section 9-21-3w. Harry Skelly and others' No. 1 Newfeldt, SE cor. NE Section 19-21-3w, is a cellar.

McPherson Oil & Gas Development Co.'s No. 1 Hull, C SW Section 11-19-2w, has been completed for 30,000,000 feet of gas in chat 2,895-2,924 feet. The Texas Company's No. 1 Munn, NW cor. NE Section 12-20-2w, made 2,160 bbls. in sand 2,977-82 feet. Derby Oil Co.'s No. 1 Stuckey, NE cor. SE Section 9-21-3w, has been completed for 1,050 bbls. in Wilcox sand 3,318-25 feet.

Lyon County

Sheedy and others' No. 1 Williams, SE cor. SW SW Section 18-21-10, is rigging up. Gordon & Staats ond cthers moved a machine to the location for No. 1 Bradfield, SE cor. Section 1-21-11. Vailliere Oil Co. made location for No. 1 Murphy, SE cor. SW Section 17-21-11. Location has also been made for No. 1 Buck, NW cor. Section 28-21-11.

Morris County

Arrow Oil & Gas Co. moved the machine in for No. 1 Kinkle, C NW NE Section 8-16-7.

Norton County

A. L. Richards and others made location for No. 1 Colby, C SW Section 17-4-21w.

Rice County

T. B. Slick and others' No. 1 Schurr, NE cor. SW Section 21-20-10w, has been completed for 150 bbls. in sand 3,275-84 feet.

Riley County

Derby Oil Co., Skow & Ritchey's No. 1 Lundstrum, NE cor. Section 32-7-5, has been abandoned at 2,230 feet.

Russell County

Mid-West Exploration Co. made location for No. 33 Speer, SE cor. SW NW Section 32-13-15w.

Sedgwick County

Bu-Vi-Bar Petroleum Corp.'s No. 6 Reed, SE cor. NW SE Section 1-26-1w, Valley Center Pool, is rigging up. Shell Petroleum Corp. is building the rig for No. 4 Fischer, SW cor. NW SE Section 15-26-2, Greenwich Pool. Location has been made for No. 5 Fischer, NW cor. SW SE Section 15-26-2. The rig is going up for No. 3 Brown, NE cor. SE SW Section 15-26-2.

Wentz Oil Corp.'s No. 3 S. Bright, NE cor. SE NW Section 1-26-1w, has been completed for 482 bbls. in Simpson sand 3,370-95 feet. No. 1 Meers, SE cor. SW Section 10-26-2, has been abandoned at 3,187 feet. Shell Petroleum Corp.'s No. 2 Lygrisse "B," SE cor. SW NE SW Section 15-26-2, made 205 bbls. in chat 2,889-94 feet. No. 3 Lygrisse "B," SE cor. NE SW Section 15-26-2, has been completed for 225 bbls. at 2,895 feet in chat. E. F. Jones and others' No. 1 Right of Way, NW cor. NE SE SW Section 15-26-2, made 250 bbls. in chat 2,908-10 feet. Deal and others' No. 1 Elliott, SE cor. NE SW Section 15-26-2, Lot 7, Block 6, Greenwich townsite, was completed for 290 bbls. in chat 2,930-32 feet. Shell Petroleum Corp.'s No. 1 Jansen, NW cor. SW Section 27-26-2, has been abandoned at 3,375 feet.

Shawnee County

Omar Oil & Gas Co.'s No. 1 Allen, NE cor. SE NW Section 2-11-14, is dry and abandoned at 2,377 feet.

Stevens County

Sidwell and others' No. 1 Kelley, SE cor. NW Section 16-34-38w, is drilling at 1,335 feet.

Sumner County

Washoma and others made location for No. 1 Bussard "C," NW cor. SE Section 36-31-2. No. 3 Bussard "B," CEL NE SW Section 36-31-2, has been completed for 200 bbls. in sand 1,957-68 feet. McDonald and others' No. 2 Buffington, SE cor. SW NW Section 14-32-2, is dry and abandoned at 2,210 feet. Shell Petroleum Corp.'s No. 2 Miller, SW cor. SE SW Section 17-32-2, has been completed for 75 bbls. at 3,332 feet in chat after plugging back from 3,716 feet.

Woodson County

Harper Oil & Gas Co.'s No. 2 Reed, SW cor. NE Section 28-23-14, was completed for 25 bbls. in sand 1,639-51 feet.

OKLAHOMA FIELDS

(Continued from Page 50)

erage for the last week of 23,266 bbls. from 27 wells for the week ending October 17. The decline in the potential production amounted to 5,400 bbls. which is good indication of the decline of the wells in that pool. The pool has six drilling wells shut down on account of the proration order, that have reached the pay sand, all located in Section 18-9-6.

Gypsy Oil Co.'s No. 1 Conner, SW cor. NW SE, Section 20-7-6, had Wilcox sand at 4,423-25 feet, with water. It is now shut down and will probably be abandoned. Amerada Petroleum Corp.'s No. 1 Earls, NW cor. SE, Section 32-9-6, is drilling at 4,029 feet in Mayes lime.

Greater Seminole Production

The daily average production for the various pools in the Seminole area shows a decline of 12,520 bbls. for the last week ending October 16. Eleven wells were added to the total. The following gauges by pools for the same week were:

Company—	Wells	Bbls.
Little River	344	54,405
East Little River	34	27,281
Carr City	57	10,170
Maud	133	10,118
Mission	111	20,042
Bowlegs	295	31,019
Earlsboro	293	45,857
East Earlsboro	40	24,116
Seminole	274	31,327
East Seminole	27	6,538
Searight	83	11,890
St. Louis	426	57,281
Asher	22	7,186
Sasakwa	27	12,030
Allen	227	24,564
Total	2,393	373,734

Milmac Oil Co.'s No. 1 Bullett, in the new Wilcox sand pool west of Henryetta, in Section 27-12-12, Okmulgee County, flowed 258 bbls. on October 13 and 250 bbls. on October 14.

An important extension has been opened by the Magnolia Petroleum Corp.'s No. 2 Tarter, NW cor. SW, Section 15-7-4, Pottawatomie County. It found the Wilcox sand at 4,285-89 feet, where it made 1,910 bbls. the first 24 hours, and 1,498 bbls. pinched, the second 24 hours, ending Monday morning, October 21. It extends the possibilities of the Wilcox sand 1 mile east. All the other wells in this neighborhood are producing from the Hunton, Viola and Simpson.

Deep Tests in South

In the southern part of the State several deep tests are drilling but no commercial production has been found. Arcla and others' No. 1 Clark, NE cor. NW SE, Section 35-4s-2w, Carter County, was drilling at 4,590 feet on October 17. The test will be drilled until oil is found or the operators interested are satisfied there is no possibility of finding production. Superior Oil Corp.'s No. 1 Nesmith, SW cor. SE SE, Section 2-7s-7w, Jefferson County, was drilling at 3,390 feet in sandy shale, nothing showing on October 17. Carter Oil Co.'s No. 6 Kearns, SW cor. NE SE, Section 21-3s-5w, Stephens County, was drilling at 4,526 feet in slate and lime, October 17.

American Oil & Refining Co. has a new well in the Beebe Pool. The No. 3 Robertson, NE cor. SW, Section 19-5-5, Pontotoc County, had Viola lime at 2,333-85 feet. It swabbed 500 bbls. the first 24 hours on October 14.

The southwestern part of the State is quiet, some tests are starting up after being shut down for some time. Chenault & Staley's No. 1 Crane, in Tillman County, has resumed drilling at 60 feet. The contract depth for this wildcat is 2,000 feet. Indian Territory Illuminating Oil Co. and others' No. 1 fee, SW cor. NE, Section 17-6-24w, Greer County, has completed its fishing job and is drilling ahead at 1,902 feet. Helmerich & Payne's No. 1 Hench, NW cor. Section 23-6-24w, Greer County, is drilling in granite wash at 1,620 feet, the top being 1,445 feet.

Leasing in the North

In the northern part of the State practically all of the major oil companies are still actively engaged in taking leases in the two most northern tiers of counties Blocking is reported to be going on in southeastern Grant County and northeastern Garfield County. This acreage

is in Townships 25-3w and 24-4w. Alfalfa County is being leased in Townships 24-11w, 28-12w and 27-9w. Garfield County is active in Townships 24-6w, 20-4w, and 21-6w. Major County is being leased in Townships 20-9w, 21-9w, 23-9w, 20-10w, 21-10w and 22-10w. Blaine and Kingfisher Counties are also getting their share of the play. A seismograph is running in Township 24-8w, northwestern Garfield County. It is said to be the first in that part of the State. Galt Brown Oil Co.'s test in Section 6-16-7w, Kingfisher County, will be drilled deeper. Sinclair Oil & Gas Co. is taking an interest in this test and will drill it to the Wilcox sand, or approximately 6,500 feet. Shell Petroleum Corp. is expected to start a wildcat test in SW Section 32-23-4w, Garfield County, in the near future. Same company had a showing of oil in another test drilled in Section 20-23-4w, several years ago. Consolidated Oil Co.'s No. 1 Stauffer, Section 2-27-3w, Grant County, had chat at 4,205-12 feet. It is making 40 bbls. of oil daily and 3,000,000 feet of gas. Washoma Oil Co.'s No. 1 Phillips, C NW SW, Section 12-19-10w, Blaine County, is shut down for 8-inch casing at 2,880 feet.

Northwestern Land Activities

Northwestern Oklahoma is still being leased in large blocks. Dan Matthews is assembling a block in Townships 24-25w and 25-25w, Ellis and Harper Counties. The acreage has been core drilled and a test well is expected to be started by the first of next year. Wildcat tests are being talked of in Woodward County, in Townships 26-25w and 27-25w. Major County is being core drilled in Township 20-15w. The deep tests drilling in this general area are proceeding slowly and until they reach some formation that carries oil or gas, other development will be slow. Prairie Oil & Gas Co.'s No. 1 Wilber, NE Section 23-23-17w, Woodward County, was drilling at 5,564 feet, on October 18. It was in shale and carrying a hole full of water. Harris & Haun's No. 1 Wyatt, C SE, Section 9-23-20w, Woodward County, was fishing at 4,500 feet for tools. Total depth is 4,630 feet, in lime. Bu-Vi-Bar Petroleum Corp. and others' No. 1 fee, SE cor. SW, Section 10-25-15w, Woods County, was drilling at 5,924 feet in lime which was topped at 5,920 feet, carrying a hole full of water. Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW, Section 14-26-24w, Harper County, was drilling at 5,324 feet. The 9-inch casing was cemented at that depth. It has been recemented as an extra precaution. Same company's No. 1 Steward, NE cor. SW, Section 33-27-16w, Woods County, is trying to sidetrack a bit at a total depth of 5,333 feet. Peerless Oil & Gas Co.'s No. 1 Crowell, C SW SE, Section 14-28-16w, Woods County, has been abandoned at 1,400 feet. The rig has been moved south to a new location in the C NW SE, Section 23-28-16w, Woods County. The new hole will be started with standard tools and later rotary tools will be moved in.

Acreage in the northern part of Oklahoma and southern part of Logan Counties has been in demand during the past few months. All the major oil companies now have protection in that area and the play is about over. A wildcat by Hall and others, located in the NW cor. SE, Section 21-17-4w, Logan County, will be started by the first of the year.

Lincoln and Payne Counties

Magnolia Petroleum Co.'s No. 1 Decker, SE cor. SW, Section 8-14-4, Lincoln County, averaged 325 bbls. daily last week ending October 17. It is also cutting 7 per cent. Shaffer Oil & Refining Co.'s No. 2 Little Chief, SW cor. NW NE, Section 4-18-5, Payne County, averaged 595 bbls. the seven days ending October 17. It is producing from the Wilcox sand found at 3,482-3,534 feet. Same company's No. 2 Echo Hawk, NW cor. NE, Section 9-18-5, Payne County, averaged 390 bbls. the seven days ending October 17. It had Wilcox sand at 3,573-91 feet. Same company's No. 1 J. R. Dawes, SE cor. NW, Section 4-18-5, is drilling in Simpson at 3,593 feet with a show of water.

Oil in Craig County

O. M. Confer has drilled 10 producing wells, 6 miles northeast of Vinita, Craig County, Oklahoma. Drilling in that area started last August. The wells are shut in and no oil is being produced until a pipe line connection is made to these leases. It is probably the only producing area in the State that is not being operated at this time. The oil is found at a depth of 260 to 300 feet. Operators estimated the wells will produce flush from 10 to 50 bbls. daily.

Earlsboro Townsite

Nine tests are drilling on the townsite of Earlsboro. Twenty drilling permits have been issued for tests on the townsite. It is the most active town-lot development in the State at this time. Commerce Development Co. has a rig up for a test in the NW cor. SE Section 8-9-5, Seminole County, on the Dobbs farm. Hivick and others drilled two tests on this farm several years ago which produced from the Earlsboro sand for a short time and then were abandoned. Both of these tests were abandoned before reaching the Wilcox sand. The new rig adjoins the townsite on the east.

Magnolia Petroleum Co. has made a new wildcat location in NW cor. NE NW Section 23-9-5, south of the main Earlsboro Pool.

Seminole Pipe Line Runs

The daily average pipe line runs from the Seminole area for the week ending October 16 were as follows:

Company—	Bbls.
Barnsdall	4,808
Champlin	4,094
Continental	609
Consolidated	547
Cosden	11,617
Empire	9,164
Gulf	40,600
Magnolia	14,272
Oklahoma	46,072
Prairie	50,472
Producers & Refiners	936
Pure	4,307
Shaffer	3,125
Shell	9,034
Sinclair	27,456
Texas	20,255
T'dal	20,821
White Oak	2,013
Total	270,202
Tank cars	9,890
Grand total	280,092

Carter County

Magnolia Petroleum Co. has the rig up for No. 4 E. Gill, SW cor. NE SE, Section 23-1s-3w. No. 2 W. W. Martin, NE cor. NW SE, Section 23-1s-3w, is a rig. The rig is up for No. 3 Hightower, SW cor. NW NE, Section 30-1s-3w.

Coal County

J. S. Cosden Co. Inc.'s No. 1 Richardson, NW cor. NE NE, Section 6-2-8, is dry and abandoned at 3,210 feet. E. W. Whitney's No. 1 Miller, SE cor. NE, Section 10-2-8, has been abandoned at 202 feet.

Comanche County

Floyd Cooper's No. 1 Hallum, C SE SW, Section 3-3-10w, is making 7 bbls. from sand 1,446-57 feet.

Creek County

Pioneer Petroleum Co.'s No. 5 Morgan, CWL SW NE, Section 15-19-9, is drilling at 800 feet. William Sherry and Carter Oil Co.'s No. 2 Narharky, NE cor. NW, Section 24-19-9, is a rig. Regal Oil Co.'s No. 10 J. Barnett, CEL SW SW, Section 13-18-11, is cleaning out to deepen from 1,539 feet. Keaton and others' No. 1-A Drew, SW cor. NW NW SW, Section 32-18-11, is drilling at 500 feet. Lynch and others' No. 1 A. Brown, NE cor. SW NW, Section 4-18-12, an old well drilling deeper, is underreaming at 1,742 feet. Tidal Oil Co. made location for No. 12 Tiger, CSL NE, Section 17-17-7. R. O. Bailey's No. 7 Fulsom, CWL NW SW, Section 13-17-10, is spudding. Curtis Oil Co. and others' rig is up for No. 1 Littlehead, SW cor. NW NW, Section 20-17-10. Hemlock Oil Co. has the rig up for No. 1 Fulsom, SW cor., Section 35-17-10. Sooner Oil & Gas Co.'s No. 5 Bruner, C SW SW, Section 12-17-11, is spudding. H. McCready and others moved the rig in for No. 3 Hardridge, NW cor. SW SE, Section 30-17-11. Darby Petroleum Co.'s No. 3 Johnson, SE cor. SW NE, Section 21-16-8, is a rig. The Prairie Oil & Gas Co. made location for No. 2 Shepard, NE cor. SE NE, Section 35-15-7.

Foster Petroleum Co.'s No. 1 Hinton, SW cor. SE NW, Section 25-19-8, is making 50 bbls. from sand 2,380-96 feet. J. F. Wood Oil Co.'s No. 1 Langley, NE cor. SE, Section 19-19-9, has been abandoned at 1,100 feet. William Sherry and Carter Oil Co.'s No. 2 Harmon, C SW NE, Section 28-19-9, made 3,750,000 feet of gas from sand 2,242-57 feet. Sooner Oil & Gas Co.'s No. 1 Colvin, NW cor. SE SE, Section 31-18-11, is dry and abandoned at 2,006 feet. The Texas Company's No. 9 Derrisaw, NE cor. SW SW, Section 6-17-7, made a 15-bbl. well in sand 2,400-23 feet after plugging back from 2,865 feet. Pioneer Petroleum Co.'s No. 1 Brown, C NW SE, Section 18-17-10, has been completed for 25 bbls. in sand 2,188-2,232 feet. Carter Oil Co.'s No. 10 Durant, NE cor., Section 18-16-9, has been completed for 75 bbls. in sand 2,680-2,728 feet. Devonian Oil Co.'s No. 1 Bosen, SE cor. NE NE, Section 35-15-7 made 40 bbls. in sand 2,639-2,717 feet. Skelly Oil Co.'s No. 1 Repogle, SW cor. SE SW, Section 10-15-8, has been completed for 45 bbls. in Wilcox sand 3,785-3,812 feet.

Cotton County

Baldwin & Sultan's No. 5 Rhone, NE cor. SW SE SE, Section 35-1s-10w, is rigging up. Shasta Oil Co.'s No. 6 Slogan, NE cor. NW NE NE, Section 2-2s-10w, is drilling at 2,144 feet. Location has been made for No. 7 Slogan, SE cor. NW NE NE, Section 2-2s-10w. No. 5 Slogan, SW cor. NW NE NE, Section 2-2s-10w, has been completed for 100 bbls. in sand 2,153-79 feet.

Grady County

Magnolia Petroleum Co.'s No. 4 Harrison, SE cor. NE NE, Section 28-3-5w, an old well deepened to 1,865 feet, is mudding gas.

Hughes County

Magnolia Petroleum Co.'s No. 1 Witty SW cor. NW, Section 22-7-8, has been abandoned at 3,407 feet.

Jefferson County

McGinley & Sigler's No. 11 Pfile, SW cor. NW SE NE, Section 20-7s-5w, has been abandoned at 560 feet.

Le Flore County

Le Flore County Gas & Electric Co.'s No. 3 Cricklin, NW cor. SE SE SE, Section 28-7-26, is rigging. No. 2 Jackson, NE cor. SW SW SE, Section 28-7-26, has been completed for 1,500,000 feet of gas in sand 1,555-1,805 feet.

Lincoln County

Continental Oil Co.'s No. 1 School Land, NW cor. NE NW, Section 36-17-3 has been completed for 3,500,000 feet of gas in sands 3,922-47 feet and 3,962-74 feet. F. R. Billingslea and others' No. 1 Davis, SE cor. NE NE, Section 28-17-6, is dry and abandoned at 3,481 feet.

Muskogee County

H. L. Jolly has a machine on the location for No. 2 Muskogee Townsite, Lot 13, Block 308, NW cor. NE SW NW, Section 35-15-18. Wilson & Barnes' No. 1 Kelly, SW cor. NW SW, Section 13-13-18, is a machine.

John Aggas' No. 1 M. Wheat, SE cor. NE SW, Section 28-16-15, has been completed for 500,000 feet of gas in sand 1,522-25 feet. Mack Drilling Co.'s No. 1 D. Richahrds, C SW NE, Section 36-16-15, is dry and abandoned at 1,800 feet. Jack Summers' No. 6 S. Canard, SE cor. NW, Section 28-15-16, has been abandoned at 1,602 feet. Arthur Oil Co.'s No. 9 Spaulding, SW cor. NE NE, Section 34-15-18, made 500,000 feet of gas in sannd 817-47 feet. C. A. Lovelace and others' No. 1 Muskogee Townsite, Lot 5, Block 308, NW cor. SW NW, Section 35-15-18, is dry and abandoned at 1,098 feet. W. E. Lightner and others' No. 1 Sullivan, NW cor. NE, Section 30-14-16, is dry and abandoned at 1,414 feet. W. C. McCullough's No. 1 Gonseth, SE cor. SW SW NE, Section 13-14-18, has been abandoned at 1,098 feet. E. L. Newport and others' No. 1 Head, NE cor. SW NW, Section 13-13-18, has been abandoned at 807 feet.

Okfuskee County

Burke-Greis Oil Co.'s No. 2 Unallotted, SW cor. NE SW, Section 36-11-9, is rigging up to deepen from 3,630 feet. E. L. Robinson's No. 1 Rice, NW cor. NE NW, Section 2-10-9, is drilling at 1,480 feet. Moore and others' No. 2 Autry, SW cor. NE, Section 12-10-11, is spudding.

Milmac Oil Co.'s No. 1-A Bullet, SE cor. SW NE, Section 27-12-12, made 250 bbls. in sand 3,314-72 feet. F. A. Havell and others' No. 1 Grayson, SW cor. SE, Section 23-11-11, made 75 bbls. in sand 1,592-1,644 feet.

Okmulgee County

Getzendaner and others' No. 6 Coleman, CWL NW SW, Section 29-15-11, has been completed for 15 bbls. in sand 2,557-77 feet.

Oklahoma County

Indian Territory Illuminating Oil Co. and others' No. 10 Trosper, SE cor. SW SW, Section 13-11-3w, is a cellar. No. 3 Unsell Krager, SE cor. NE NE, Section 23-11-3w, is a cellar. The cellar for No. 7 A. Bodine, SE cor. NW SE, Section 24-11-3w has also been dug.

Osage County

Galt-Brown Oil Co. and others' No. 1 NW cor. NE, Section 30-24-8, is a cellar. Barnsdall Oil Co. and Branstetter's No. 6 NW cor. NE SE, Section 22-22-11 is spudding. Oklahoma Natural Gas Corp.'s No. 1,741, SW cor. NE SW SW, Section 5-21-12, is spudding. Peters Petroleum Corp. and Producers & Refiners Corp.'s No. 4 CSL SW, Section 22-27-11, has been completed for 200 bbls. in Bartlesville sand 1,669-94 feet. No. 1 SE cor., Section 19-26-7, is dry and abandoned at 3,120 feet. A. G. Oliphant and others' No. 1, NE cor. SW, Section 13-24-6, has been abandoned at 2,726 feet. McCune, Wormser and others' No. 3, SW cor. NE NE, Section 15-24-8, is pumping 150 bbls. from Wilcox sand 2,640-45 feet. Grace Maxwell's No. 4, SW cor. NW SW, Section 5-24-11, is dry and abandoned at 1,824 feet. Silurian Oil Co.'s No. 56 NW cor. NE NW, Section 17-23-12, made 35 bbls. in Bartlesville sand 1,490-1,558 feet. Wrightsman Petroleum Co.'s No. 1 NW cor. SE, Section 32-22-8, is dry and abandoned in Wilcox sand 2,756-86 feet. Mid-Co Oil Co.'s No. 1, NE cor. NW, Section 13-22-9, is dry and abandoned at 2,551 feet. Elliott & Smith's No. 2, NE cor. SE SE, Section 33-22-11, has been abandoned at 2,132 feet. Oklahoma Natural Gas Corp.'s No. 1,738, SE cor., Section 6-21-12, has been completed for 1,500,000 feet of gas in Bartlesville sand 1,325-27 feet. Oklahoma Power & Water Co.'s No. 120 C SW, Section 4-20-10, is dry and abandoned at 2,660 feet. No. 123 SE cor. SW, Section 4-20-10, has been completed for 125,000 feet of gas in sand 365-75 feet.

Pawnee County

H. Purser and others moved a machine in for No. 1-A Miller, SE cor. NE SE, Section 20-20-10. Peter Adamson Jr.'s No. 7 Smith, SW cor. NE, Section 25-21-8, has been completed for 18 bbls. in Layton sand 1,115-27 feet. Hay and others' No. 3 Copeland, NW cor. SW, Section 26-20-9, made 125 bbls. in Red Fork sand 2,144-74 feet.

Payne County

Shaffer Oil & Refining Co.'s No. 1 Searcy, SE cor. SW, Section 4-18-5, is rigging up. Home Gas Co.'s No. 1 Grass NW cor. SE, Section 13-18-5, has been abandoned at 3,720 feet.

Pontotoc County

American Oil & Refining Co. made location for No. 5 Robertson, NW cor. SE, Section 19-5-5. Dixie Oil Co. made location for No. 1 Haynes, NW cor. SW, Section 32-5-5. Universal Oil Co.'s No. 1 Slater, C SE SE, Section 31-5-7, is setting surface pipe. Louisiana Oil Refining Co. moved a machine in for No. 9 Warfle, C SW NE, Section 20-5-8, Allen Pool. Belchie & Laskie's No. 1 Williamson, NW cor. NE SW, Section 32-5-7, has been completed for 4,000,000 feet of gas in sand 1,604-16 feet.

Pottawatomie County

Mid-Continent Petroleum Corp. made location for No. 6 Rogers, NE cor. SW SW, Section 5-9-5, Earlsboro Pool. Twin State Oil Co. moved the rig in for No. 1 Ray, NW cor. SW SW, Section 3-8-4. McMan Oil Co. and White Eagle Oil & Refining Co.'s No. 3 Roberts, NE cor. SW, Section 9-8-5, is a rig under construction. The Prairie Oil & Gas Co.'s No. 1 Bodkin, SW cor. NW NE, Section 1-7-4, St. Louis Field, is a cellar. Indian

Territory Illuminating Oil Co. has dug the cellar for No. 3 Weldfelt, SW cor. NE NW, Section 2-7--4. Atlantic Oil Proucing Co. and others' No. 1 Bewley, SE cor. NW SE, Section 9-7-4, is drilling deeper at 4,037 feet. Magnolia Petroleum Co. made location for No. 2 F. Lynn, SE cor. NE NE, Section 21-7-4. Location has also been made for No. 1 Ogle, NW cor. NE SW, Section 22-7-4.

H. F. Wilcox Oil & Gas Co.'s No. 8 Smith, SE cor. NE SE, Section 8-8-5, Mission Pool has been completed for 252 bbls. in sand at 4,105 feet. Independent Oil & Gas Co. and Mid-Kansas Oil & Gas Co.'s No. 1 Weldfelt, NE cor. NW NW, Section 2-7-4, flowed 1,552 bbls. from Hunton lime 3,748-3,892 feet. Sinclair Oil & Gas Co. and McGraw Oil Co.'s No. 2 Kelly "A", NW cor. NE, Section 2-7-4, made 30 bbls. at 4,252 feet. Magnolia Petroleum Co.'s No. 1 M. Jones, NW cor. NE SE, Section 8-7-4, drilled to 4,230 feet and plugged back to 3,940 feet and was completed for 9 bbls. Magnolia Petroleum Co. and Harris Hayes Oil Co.'s No. 1 D. Lynn, NE cor., Section 21-7-4, flowed 460 bbls. from Hunton lime 3,630-3,775 feet. Shaffer Oil & Refining Co. and Margay Oil Co.'s No. 1 Adams, NE cor., Section 11-6-3, is dry and abandoned at 4,632 feet. T. B. Slick and Amerada Petroleum Corp.'s No. 2 Walker, NW cor. NE SE, Section 19-6-4, Asher Pool, has been completed for 325 bbls. in Viola lime 3,600-49 feet.

Seminole County

The Texas Company moved the rig in for No. 5 Magruder, SE cor. NW NW, Section 19-9-6, East Earlsboro Pool. The rig is also on the ground for No. 6 Magruder, NE cor. NW NW, Section 19-9-6. Tidal Oil Co. and others' No. 2 Harjo, SW cor. NE NW, Section 20-9-6, is a rig on the ground. W. B. Pine's No. 2 Bean, NE cor. SW, Section 13-7-6, is a cellar. Pure Oil Co. has dug the cellar for No. 6 Bates, SE cor. NE NE, Section 13-6-7. No. 7 Bates, NE cor. SE NE, Section 13-6-7, is also a cellar. Carter Oil Co.'s No. 1 Brannon, NW cor. SW NW, Section 18-6-8, is a rig on the ground.Gypsy Oil Co. moved the rig in for No. 1 Smith SW cor. NW NW, Section 18-6-8.

Superior Oil Corp. and Shaffer Oil & Refining Co.'s No. 4 McKay, SE cor. SW SW, Section 36-10-5, has been completed for 239 bbls. in Wilcox sand 4,459-75 feet. Carter Oil Co.'s No. 1 Cox, SE cor. SW SE, Section 31-10-6, drilled to 4,270 feet, plugged back to 4,282 feet and made 125 bbls. Magnolia Petroleum Co.'s No. 9 Anderson, NW cor. SE NE, Section 18-9-6 East Earlsboro Pool has been completed for 315 bbls. in Wilcox sand 4,366-4,409 feet. Sinclair Oil & Gas Co. and Phillips Petroleum Co.'s No. 2 S. Warrior, NE cor. NW SW, Section 17-9-7, East Seminole Pool, made 290 bbls. from Cromwell sand 3,458-57 feet. Sinclair Oil & Gas Co. and Gypsy Oil Co.'s No. 1 Okfuskee, SW cor. NW NE, Section 18-9-7, made 180 bbls. from 4,097 feet after plugging back from 4,269 feet. Sinclair Oil & Gas Co.'s No. 4 B. Coody, NE cor. SW NE, Section 18-9-7, has been completed for 415 bbls. in Hunton lime 4,015-95 feet. Empire Oil & Refining Co.'s No. 1 Brown, SE cor., Section 3-8-5, is dry and abandoned at 4,360 feet. Independent Oil & Gas Co. and White Eagle Oil & Refining Co.'s No. 5 L. Davis, SE cor. SW SE, Section 2 7-6, made 1,605 bbls. in sand 3,077-90 feet. The Texas Company's No. 7 D. Hotulke, NE cor. SW NW, Section 23-7-6, Little River Pool, has been completed for 265 bbls. in Gilcrease sand 3,142-53 feet. Carter Oil Co.'s No. 1 Walker, NW cor. NE NW, Section 24-7-6, made 270 bbls. from Wilcox sand 4,519-26 feet. Continental Oil Co. and Shaffer Oil & Refining Co.'s No. 4 Harris SW cor. NW SW, Section 4-7-7, has been completed for 560 bbls. in Wilcox sand 4,154-77 feet. The Prairie Oil & Gas Co.'s No. 1 Smith, NE cor. SW, Section 5-7-7, East Little River Pool, made 2,105 bbls. in Wilcox sand 4,221-28 feet. Mid-Continent Petroleum Corp.'s No. 9 Smith, NW cor. SE, Section 5-7-7, has been completed for 2,150 bbls. in Wilcox sand 4,204-19 feet. Sinclair Oil & Gas Co.'s No. 5 Phillips, SE cor. NE SE, Section 5-7-7, swabbed and flowed 1,900 bbls. from Wilcox sand 4,153-77 feet. Indian Territory Illuminating Oil Co.'s No. 1 Tiger, NE cor. SE NW, Section 13-6-7, is dry and abandoned at 4,070 feet. No. 1 Powers, NE cor. SW, Section 13-6-7, is dry and abandoned at 4,570 feet. Pure Oil Co.'s No. 3 Bates, SE cor. NW NE, Section 13-6-7, has been completed for 1,075 bbls. in Wilcox sand 4,090-4,125 feet. No. 4 Bates, NW cor. SE NE, Section 13-6-7, flowed 4,000 bbls. from Wilcox sand 4,109-22 feet. Indian Territory Illuminating Oil Co.'s No. 2 Holatka, SW cor. SE SE, Section 7-6-8, Sasakwa Pool, made 713 bbls. in Wilcox sand 4,115-17 feet. Sinclair Oil & Gas Co.'s No. 7 Davis "A," NE cor. SW SE, Section 7-6-8, swabbed 490 bbls. from Wilcox sand 4,174-77 feet.

Stephens County

Magnolia Petroleum Co.'s No. 6 D. Russell, SW cor. SE, Section 25-1s-9w, is preparing to deepen from 2,126 feet. Ven Mex Oil Co. and Mid-Continent Oil Co.'s No. 2 Thompson, SE cor. SW, Section 35-1s-8w, is a rig. Pelwin Oil Co.'s No. 1 Pielsticker, NW cor. NE SE NE, Section 5-2s-8w, is rigging up.

Ellis Drilling Co.'s No. 8 Nigh, SE cor. SW NW, Section 34-1s-8w, made 60 bbls. in sand 1,712-14 feet. Magnolia Petroleum Co.'s No. 25 Kagay, NE cor. NW SW, Section 34-1s-8w, has been completed for 33 bbls. in sand 1,839-59 feet. Pace and others' No. 4 A. Bristowe NW cor. SW, Section 18-2s-7w, has been abandoned at 1,482 feet. Tooey & Long's No. 1 Leftwitch. NW cor. SW NW NW, Section 11-3s-5w, has been abandoned at 1,100 feet.

Tulsa County

Murray and others' No. 1 McIntosh, SW cor., Section 29-19-14, is drilling at 300 feet. Byrne & Green's No. 2 Boulton, SW cor. SE NE, Section 28-18-14, is drilling at 1,000 feet. H. R. Johnson and others' No. 1 Fox. NE cor. NW NW, Section 22-16-13, has been abandoned at 2,105 feet.

Wagoner County

C. A. Buzzard and others' No. 1 Murrel, NE cor. SE, Section 33-19-16, is dry and abandoned at 735 feet.

Grant County

Consolidated Gas & Utility Co. made location for No. 1 Fox, C NE SE, Section 34-28-3w. Tidal Oil Co. is building the rig for No. 1 Secatt, NE cor. SW, Section 35-28-3w. Continental Oil Co. staked location for No. 1 Forsythe, CWL NW NE, Section 2-27-3w.

Kay County

De Camp Oil Co.'s No. 2 Sharp, C NE NE, Section 25-28-1w, has been completed for 750,000 feet of gas in sand 1,050-60 feet.

Woods County

Peerless Oil Producing Co.'s No. 1 Cromwell, C SW SE, Section 14-28-16w, has been abandoned at 1,500 feet.

PRODUCTION OF SEMINOLE AREA

Average daily production of the Seminole area for the week ending October 16:

Little River Pool

Company, farm —	Location	Wells	Prod.
Amerada:			
Nitey	2-7-6	3	362
Amerada-Wilcox:			
Fore	35-8-6	2	523
Barnsdall:			
Cotcha	23-7-6	3	564
Hotulke	22-7-6	3	415
Walker	4-7-6	1	13
Blackwell:			
Baker	11-7-6	5	528
Nitey	35-8-6	5	157
Talley	14-7-6	4	942
Thomas	11-7-6	1	Off
Bryan & Emery:			
Walker	4-7-6	1	13
Carter:			
Cotcha, M.	23-7-6	3	130
Cudjo, L.	23-7-6	2	144
Factor	26-7-6	1	15
Fish	36-8-6	3	465
Harjo, C.	11-7-6	3	2,076
Harjo, M.	13-7-6	4	264
Jackson	11-7-6	4	532
Larney (B)	26-7-6	2	286
Larney (J)	24-7-6	4	1,378
Lena	10-7-6	1	396
Moore	11-7-6	2	174
Tewee	14-7-6	6	732
Thomas	11-7-6	1	288
Walker, J.	24-7-6	1	780
Wilson	12-7-6	1	187
Champlin:			
Tewee	14-7-6	3	542
Continental:			
Cosar	36-8-6	7	799
Cosar, M.	25-8-6	1	296
Continental & Fisher:			
Milsey	11-7-6	2	341
Continental & Shaffer:			
Harrison	4-7-7	3	1,466
Empire:			
Charty	24-7-6	1	70
Coker	13-7-6	2	435
Cotcher	27-7-6	2	16
Sandlin	3-7-6	1	10
Gypsy:			
Brown, C.	33-8-6	1	165
Brown, M.	33-8-6	1	430
Campbell	33-7-6	1	8
Conard	22-7-6	2	212
Cosar, W.	36-8-6	2	177
Cotcha	23-7-6	13	1,631
Denmark	11-7-6	3	611
Hulhoke	14-7-6	10	988
Mungee	1-7-6	1	Off
Payne	5-7-7	8	4,804
Pottie	35-8-6	4	379
Renton	11-7-6	4	1,639
Walker	5 7-7	1	1,059
Independent:			
Carpenter	27-7-6	3	241
Davis, R.	13-7-6	7	1,341
Reed	26-7-6	1	6
Tewee	14-7-6	6	1,016
Williams	15-7-6	1	343
Indpendent & Highway:			
Harris	23-7-6	13	1,822
Independent & White Eagle:			
Davis	2-7-6	5	1,601
I.T.I.O.:			
Campbell	1-7-6	1	206
Dungan	35-8-6	3	462
House, M. A.	1-7-6	1	23
House, W. E.	1-7-6	1	Off
House, "B"	2-7-6	4	579
Hull	26-8-6	2	418
Jackson	1-7-6	3	226
McCulla	1-7-6	2	603
Nitey	2-7-6	5	117
Phoebe "A"	36-8-6	1	19
Phoebe "B"	36-8-6	2	188
Soketheche	1-7-6	3	108
Magnolia:			
Cruse	2-7-6	4	296
Denby	11-7-6	4	232
Harjo, A.	14-7-6	2	254
Harjo, B.	14-7-6	2	136
Pottie	35-8-6	4	26
Reed, E.	31-8-7	1	28
Reed, I.	22-7-6	3	436
Wolfe	20-8-7	1	93
McCulloch & Sands:			
Harrison	4-7-6	1	Off
Mid-Continen.:			
Brunner	11-7-6	4	126
Eleck	23-7-6	1	15
Smith	5-7-7	10	9,270
Wadsworth	36-8-6	4	47
W. B. Pine:			
Bean	13-7-6	1	56
Hoyecha	26-8-6	7	1,237
Pine-Phillips:			
Pottie	35-8-6	1	85
Prairie:			
Chilcoat	25-8-6	3	556
Coker	1-7-6	2	349
Davis	13-7-6	1	...
Dungan	35-8-6	1	Off
Gibson	14-7-6	5	884
Harris	14-7-6	4	765
House	2-7-6	4	113
Johnson	24-7-6	2	844
Lustey	5-7-7	1	20
Moppin	24-7-6	2	181
Reed	13-7-6	2	679
Smith	5-7-7	1	1,368
Talley	14-7-6	4	884
Thomas	5-7-7	2	1,186
Williams	15-7-6	2	86
Wood	26-7-6	3	157
Carr	9-7-7	1	19
Prairie & Amerada:			
Sunny	14-7-6	5	1,069
Prairie & Slick:			
Cudjo	26-7-6	4	575
Prod. & Refiners:			
Davis	13-7-6	1	868
Pure:			
Brinson	24-7-6	3	959
Cotcha	14-7-6	12	2,537
Harjo	11-7-6	4	1,261
Hollins	11-7-6	1	370
Reiter-Foster:			
Bunyard	14-7-6	2	562
Jefferson	31-7-6	1	10
McCan	33-7-6	1	5
Shaefier:			
Narcombe	36-8-6	2	35
Shell:			
Caesar	11-7-6	1	58
Glass	26-7-6	1	11
Hotulke	23-7-6	5	1,033
Johnson	13-7-6	4	681
Sinclair:			
Blanton	11-7-6	1	338
Cosar	30-8-6	3	351
Haney	12-7-6	1	127
Phillips	5-7-7	5	6,983
Tewee	14-7-6	2	1,040
Sinclair & Kingwood:			
Pompey	24-7-6	1	255
Skelly:			
Carl	14-7-6	2	1,329
Snowden-McSweeney:			
Tiger	13-7-6	2	36
Superior:			
Potulka	31-8-6	1	2
Soketheche	1-7-6	1	Off
Texas:			
Brooks	25-8-6	1	10
Chilcoat	4-7-7	1	985
Coker	1-7-6	3	5
Janey	11-7-6	7	823
Texas & Independen.:			
Hutulke	23-7-6	7	1,181
Hutulke	22-7-6	3	254
Tidal:			
House	1-7-6	1	212
Johnson	1-7-6	1	15
Twin State:			
Lowe	25-8-6	1	29
Total		378	81,686

Earlsboro Pool

Company, farm —	Location	Wells	Prod.
Amerada:			
Anderson	15-9-5	1	186
Cowden	4-9-5	7	969
Rogers	3-9-5	2	77
Sullivan	17-9-6	2	1,676
Atlantic & Sinclair:			
Foreman	18-9-5	1	100
Barnsdall:			
Brown	10-9-5	3	979
Bruner, F.	2-9-5	2	177
Bruner, N.	10-9-5	1	227
Cudjo	14-9-5	1	23
Davis, D.	11-9-5	3	122
Davis, J.	11-9-5	4	1,168
Davis, M.	11-9-5	2	22
Gibson	9-9-5	7	691
Gilliam	13-9-5	1	94
Hern	15-9-5	1	1
Ingram	1-9-5	6	275
Noble	18-9-6	2	360
Pack, S.	10-9-5	4	60
Peter	10-9-5	3	54
Sango	1-9-5	2	1,083
Sebalka	15-9-5	1	144
Sullivan, H.	11-9-5	1	3
Sull-Harjo	10-9-5	2	12
Wasutke	12-9-5	3	536
Burke-Greis:			
Wisner	6-9-6	2	236
Burke-Greis & Red Bank:			
Mays	1-9-5	3	1,599
Jones	17-9-6	1	1,236
Carter:			
Davis	13-9-5	3	60
Cox	31-10-6	1	100
James	6-9-6	3	1,167
Shepard	6-9-6	2	54
Carter et al:			
Gilliam	13-9-5	2	1,002
Green	17-9-6	1	2,352
Continental:			
Kays	2-9-5	2	73
Spencer	12-9-5	4	531
Cosden, J. S. Inc.:			
Anderson	13-9-5	1	1,250
Sarber	13-9-5	1	39
Empire:			
Barker	12-9-5	1	35
Edmondson	3-9-5	2	30
Empire & Continental:			
Anderson	13-9-5	2	350
Empire & Amerada:			
Bullock	8-9-5	2	610
Henry	8-9-5	1	1,565
Gypsy:			
Bruner	10-9-5	4	1,027
Carter, B.	11-9-5	7	1,519
Earl	16-9-5	1	11
Hunick	5-9-5	2	1,159
Keys	6-9-5	1	25
Lottie	31-10-6	1	...
Noble, B.	18-9-6	2	1,781
Noble	12-9-5	3	453
Payne	18-9-6	6	4,495
Peter	10-9-5	1	65
Sango	1-9-5	1	1,892
State	16-9-5	3	164
Wisner	13-9-5	1	221
Independent:			
Bruner	10-9-5	3	160
Sullivan	10-9-5	1	12
Knapp	8-9-5	2	690
Independent-Margay:			
Gains	11-9-5	3	60
Magnolia:			
Anderson, A.	18-9-5	8	2,980
Anderson, D. W.	18-9-6	2	1,289
Bryant	9-9-5	5	42
Cowden	4-9-5	1	17
Dixon	12-9-5	1	15
Edmondson	3-9-5	1	4
Germany	30-9-5	1	8
Gilliam	13-9-5	3	1,779
Holmsley	11-9-5	6	6
Hyde	13-9-5	2	10
Ingram	10-9-5	1	14
Lena	10-9-5	3	30
Moore	24-9-5	2	466
Seay	12-9-5	9	243
Simpson	10-9-5	4	162
Sparks	11-9-5	6	61
Sullivan	12-9-5	2	113
Mid-Continent:			
McCumber	9-9-5	3	29
Rogers	5-9-5	5	1,878
Mid-Kansas:			
Anderson	14-9-5	1	28
Minnehoma:			
Noe	17-9-6	1	2,324
Phillips:			
Dunaway	14-9-5	1	20
Reade	8-9-5	2	1,103
Prairie:			
Baker	24-9-5	5	412
Calkins	17-9-5	2	1,884
Davis	13-9-5	3	445
Graham, C.	3-9-5	1	2
Graham, O.	10-9-5	4	672
James	6-9-6	2	...
Raitman	18-9-6	3	1,732
Stidham	11-9-5	9	414
Wisener	18-9-6	1	502
Prairie & Skelly:			
Campbell	6-9-6	7	2,294
Prairie & Whitney:			
Harjo	24-9-5	1	5
Shaffer:			
Clark	1-9-5	2	140
Shell:			
Bayless	17-9-5	1	12
Hearn	13-9-5	1	27
Spencer	12-9-5	2	951
Sinclair:			
Alexander	36-10-5	1	880
Foreman	18-9-5	1	12
Hollins	12-9-5	1	...
Miller	24-9-5	1	533
Sango	2-9-5	4	475
Skelly:			
Mays	1-9-5	4	440
Shepard	6-9-6	4	1,610
Spencer	12-9-5	1	215
Skelly & Atlantic:			
Cherry	6-9-6	4	251
Lottie	6-9-6	4	644
Varman	5-9-6	1	411
Superior:			
Ingram	1-9-5	2	931

Company, farm —	Location	Wells	Prod.
Songster	8-9-5	1	347
Walker	2-9-5	2	660
McKay	36-10-5	1	553
Texas:			
Anderson	2-9-5	8	88
Brown	10-9-5	8	96
James	6-9-6	2	134
Rogers	5-9-5	5	313
Wilmott	10-9-5	6	91
Tidal:			
Walker	35-10-5	2	1,430
Wa.kins	9-9-5	7	1,425
Twin State:			
Barker	12-9-5	2	37
Magruder	7-9-5	1	561
Hern	2-9-5	2	53
Anderson	22-9-5	1	8
Total		333	69,973

Carr City Pool

Amerada:			
Reed	12-8-5	1	17
Barnsdall:			
Coker	11-8-5	9	1,444
Fife	14-8-5	2	135
Talley	10-8-5	1	117
Carter:			
Coker	2-8-5	2	1,762
Empire:			
Cluck	11-8-5	13	2,681
Gypsy:			
Coker	10-8-5	1	Off
C. Coker	2-8-5	1	934
Fife	14-8-5	1	12
I.T.I.O.:			
Simpson	10-8-5	1	Off
Tully	10-8-5	1	Off
Magnolia:			
"Fee"	11-8-5	3	330
Killing	14-8-5	1	5
Prairie:			
Billington	11-8-5	10	1,206
Mitchell	15-8-5	1	84
Sinclair:			
Bean	11-8-5	5	923
Harjo	11-8-5	4	520
Total		57	10,170

Maud Pool

Amerada:			
Ballard	1-8-4	1	40
Fehlig	7-8-5	1	41
Gossland	8-8-5	3	78
Gravel	1-8-4	1	11
Hallum	1-8-4	4	1,426
Amerada & Barnsdall:			
Wallace	17-8-5	4	254
Amerada & Hull:			
Green	20-8-5	3	28
Continental & Shell:			
Everetts	18-8-5	2	35
Empire:			
Smith	8-8-5	2	490
Gypsy:			
Bourassa	7-8-5	4	51
Gossland	1	587	
Miller	18-8-5	8	231
Independent:			
Harding	18-8-5	4	157
I.T.I.O.:			
State	16-8-5	1	97
Laurel O. & G.:			
Billington	18-8-5	3	91
Magnolia:			
Billington	8-8-5	4	69
Green	20-8-5	3	86
Smi.h	20-8-5	1	69
McMan:			
Roberts	9-8-5	1	439
Mid-Continent:			
Shelton	18-8-5	3	25
Phillips:			
Hudson	19-8-5	3	116
Wallace	17-8-5	2	43
Pine:			
Lingefelt	18-8-5	2	102
Smith	8-8-5	2	367
Prairie:			
Campbell	18-8-5	8	122
Prairie & White Eagle:			
Villines	20-8-5	1	5
Pure:			
Lindly	18-8-5	8	313
Urbansky	19-8-5	2	39
Wiley	8-8-5	4	757
Shell:			
Jordan	9-8-5	2	1,175
Sinclair:			
Bellars	19-8-5	10	410
Calvin	7-8-5	3	157
Lewis	6-8-5	2	56
Smith	9-8-5	1	355
Skelly & Lenox:			
Green	20-8-5	1	90
Skelly & Margay:			
Lingefelt	18-8-5	4	160
Texas:			
Calvin	7-8-5	9	215
Tidal:			
Dunn	12-8-4	1	38
Everett	18-8-5	2	44
Smith	8-8-5	1	62
Twin State:			
Calvin	7-8-5	2	95
Wilcox:			
Smith	8-8-5	7	1,060
Total		133	10,118

Mission Pool

Amerada:			
Rice	5-8-6	2	508
Carter:			
Fuswa	18-8-6	3	712
Micco	8-8-6	2	224
Melisse	9-8-6	1	476
Continental:			
Mains	7-8-6	4	969
Darby:			
Judy	1-8-5	1	54
Gypsy:			
Baby	6-8-6	1	13
Barkus, N.	6-8-6	10	3,191
Barkus, S.	7-8-6	1	37
Dosar	7-8-6	5	861
Hardy	7-8-6	5	321
Harjoche	7-8-6	3	17
Micco, L.	8-8-6	2	34
Micco, S.	8-8-6	1	Off
Mission	5&6-8-6	7	1,050
Mosar	1-8-5	4	629
Independent:			
Lawson	1-8-5	5	571
Independent & Kistler:			
Payne	7-8-6	3	1,020
McMahon et al:			
Harjo	7-8-6	2	780
Mid-Continent:			
Ripley	13-8-5	1	142
Minnehoma:			
Neal	7-8-6	4	399
Pine:			
Harjo	6-8-6	3	706
Micco	8-8-6	1	24
Prairie:			
Crain	7-8-6	1	2
Melton	6-8-6	3	863
Micco	5-8-6	1	5
Townsend	6-8-6	2	689
Prairie & Slick:			
Nelly		1	126
Prairie & Gypsy:			
Owens	18-8-6	2	183
Shaffer:			
Weaver	12-8-5	3	1,045
Shell & Continental:			
Herndon	7-8-6	3	493
Shell & Papoose:			
Maines	7-8-6	8	722
Sinclair:			
Hardy	7-8-6	4	454
Sinclair & Lenox:			
Judy	1-8-5	1	30
Tidal:			
Nelly	12-8-5	5	1,499
Twin State:			
Hayes	8-8-6	2	920
Judy	6-8-6	2	251
Ripley	12-8-5	2	22
Total		111	20,042

Bowlegs Pool

Amerada:			
Roscoe	15-8-6	6	539
Atlantic:			
Baker	10-8-6	4	233
Fleet	23-8-6	3	125
Grayson	13-8-6	3	477
Jones, A.	16-8-6	2	20
Jones, C.	9-8-6	1	16
Barnsdall:			
McNac	28-8-6	1	20
Murrow	11-8-6	4	265
Carter Oil:			
Bowlegs	15-8-6	4	336
Burden	23-8-6	2	234
Harjoche	14-8-6	6	404
Hilly	23-8-6	3	248
Jones	11-8-6	4	458
Walker	15-8-6	4	461
Wise	23-8-6	11	1,310
Dixie :			
Culley	11-8-6	1	25
Empire:			
Lacy	14-8-6	6	177
Wise	23-8-6	2	140
Gypsy:			
Cumsey	10-8-6	4	460
Grayson	13-8-6	4	600
Harjoche	10-8-6	3	222
Jones	11-8-6	1	37
Walker	15-8-6	7	944
Wise	23-8-6	2	79
I.T.I.O.:			
Barnett	24-8-6	1	74
Barnett "B"	23-8-6	1	11
Billington	22-8-6	3	377
Bowlegs	22-8-6	9	1,131
Davis	13-8-6	4	61
Fay	13-8-6	9	988
Goforth	15-8-6	12	837
Livingston	15-8-6	10	1,205
Lizzie	13-8-6	3	342
Walker	15-8-6	8	640
Williams	12-8-6	1	123
Wilmott	15-8-6	4	408
Work	24-8-6	1	56
Youngblood	24-8-6	1	21
Magnolia:			
Davis	13-8-6	3	167
Davis, M.	13-8-6	1	96
Hammond	10-8-6	8	342
Rhodos	12-8-6	5	372
Van Buskirk	9-8-6	4	272
McCulloch:			
Bowlegs	22-8-6	1	51
Mid-Continent:			
Baker	10-8-6	4	149
Smith	12-8-6	6	561
Minnehoma:			
Bowlegs	15-8-6	1	45
Prairie:			
Gahagan	23-8-6	3	185
Harber	10-8-6	8	1,274
Jones, G.	11-8-6	3	254
Jones, N.	3-8-6	1	178
Templeton	12-8-6	4	1,778
Whitney	23-8-6	4	343
Pure Oil:			
Reed	14-8-6	14	2,092
Strother "D"	11&14-8-6	4	345
Strother "F"	10-8-6	7	1,702
Shaffer:			
Lacy	14-8-6	3	285
Shell:			
Taylor	16-8-6	5	9
Sinclair:			
Cumsey	10-8-6	4	983
Ellen	11-8-6	5	536
Harjo	14-8-6	3	567
Jones	9-8-6	7	182
Taylor	10-8-6	4	684
Taylor, W.	10-8-6	3	615
Walker	22-8-6	4	695
Texas:			
Reed	14-8-6	11	745
Tidal:			
Grayson	13-8-6	4	470
Harjoche	10-8-6	6	944
Total		295	31,019

Seminole Pool

Amerada:			
Fixico	23-9-6	2	76
Killingsworth	23-9-6	4	314
Rentie	23-9-6	3	311
Atlantic:			
Cudjo, N.	35-9-6	3	382
Barnsdall:			
Carter	24-9-6	6	196
Henry	14-9-6	2	463
Jones	34-9-6	4	437
Carter Oil:			
B. Carter	24-9-6	2	25
F. Carter	23-9-6	3	91
Creamer	34-9-6	1	7
Cudjo, R.	35-9-6	4	87
Cudjo, W.	34-9-6	1	70
Gilliland	27-9-6	1	144
Grisso	23-9-6	4	128
Grisso, M.	15-9-6	1	202
Killings, G. F.	14-9-6	4	47
Killings, M. E.	23-9-6	12	4,122
Knapp	13-9-6	1	26
Lukes	27-9-6	5	977
Pounder	34-9-6	2	163
Simpson	35-9-6	2	112
Strothers	34-9-6	4	414
Wisner	16-9-6	1	80
Vierson	23-9-6	1	20
Sanford	16-9-6	1	200
Darby:			
Carter	24-9-6	4	232
Fixico	26-9-6	7	1,515
Harjo	25-9-6	1	19
Harjo, T.	23-9-6	3	45
Empire:			
Gross	25-9-6	1	50
Wilson	34-9-6	2	184
Gypsy:			
Butler	35-9-6	4	443
Carter	24-9-6	8	767
Cudjo	34-9-6	4	650
Fixico	26-9-6	7	54
Harjo	25-9-6	3	380
Wolfe	26-9-6	4	510
Independent:			
Fixico, P.	23-9-6	3	475
Harjo	25-9-6	2	40
Butler	35-9-6	3	572
Fixico, T.	26-9-6	5	217
Jones	26-9-6	4	319
I.T.I.O.:			
Allen	25-9-6	2	38
Bowlegs	26-9-6	12	1,782
Goodin	23-9-6	3	209
Harjo	23-9-6	3	51
James	24-9-6	2	50
Reed	24-9-6	1	8
Kingwood:			
Johnson	22-9-6	3	445
Magnolia:			
Boren	2-8-6	1	4
Franks	25-9-6	3	217
Mid-Continen.:			
Rentie	14-9-6	9	417
Tayeche	24-9-6	5	153
Phillips:			
Strothers	27-9-6	2	90
Prairie:			
Cudjo	35-9-6	3	475
Franks	35-9-6	6	335
Giblet	35-9-6	3	1,122
Gross	25-9-6	5	28
Mason	36-9-6	1	50
Spencer	13-9-6	1	6
Strothers	27-9-6	8	1,242
Tiger	1-8-6	1	34
Pure Oil:			
Strothers	26-9-6	17	3,616
Strothers, B.	36-9-6	4	438
Strothers, C.	34-9-6	1	342
Shell:			
Harber	22-9-6	1	101
Lasley	22-9-6	2	33
Sinclair:			
Carter	13-9-6	2	20
Cudjo "A"	35-9-6	6	450
Cudjo "B"	35-9-6	4	568
Dicey	22-9-6	2	425
Fixico	23-9-6	4	458
Superior:			
Cudjo	35-9-6	4	71
Noble	15-9-6	1	1
Texas:			
Mayhue	14-9-6	1	211
Strothers	2-9-6	2	50
Turman:			
Cudjo	35-9-6	4	653
Grisso	35-9-6	1	231
Jones	34-9-6	4	697
Total		274	31,237

East Seminole Pool

Barnsdall:			
Ke-pa-ya	7-9-7	1	18
Continental:			
Boeing	17-9-7	1	44
Johnson	18-9-7	3	1,567
Perry	18-9-7	2	470
Devonian:			
Harjo	18-9-7	1	6
Gypsy:			
Harjo	18-9-7	1	377
Magnolia:			
Drewery	18-9-7	1	30
Prairie:			
Stubbs	18-9-7	2	15
Haughen	19-9-7	1	15
Shaffer:			
Oliver	7-9-4	1	Off
Sinclair:			
Coody	18-9-7	3	2,610
Bob Coody	18-9-7	1	90
Johnson, B.	18-9-7	1	63
Johnson, G.	18-9-7	1	192
Thompson, B.	18-9-7	1	728
Okfuskee	18-9-7	1	172
Warrior, J.	17-9-7	1	43
Warrior, S.	17-9-7	1	97
Total		27	6,538

Searight Pool

Amerada:			
Nicy	3- 9-6	1	7
Johnson	4- 9-6	1	20
Strothers	3- 9-6	2	122
Barnsdall:			
Johnson	22-10-6	1	17
Nevins	32-10-6	1	698
Jackson	5- 9-6	2	22
Burke-Greis:			
Varnum	32-10-6	1	85
Carter:			
Davis	4- 9-6	2	181
Amerada	11- 9-6	1	10
Frazier	3- 9-6	5	376
I.T.I.O.	11- 9-6	1	289
Kiker	2- 9-6	1	15
Mayhue	11- 9-6	1	1,322
Mandler	3- 9-6	2	5
Skiff	10- 9-6	1	32
Scott	26-10-6	1	10
Slick	11- 9-6	2	688
Carter et al:			
Steward	10- 9-6	1	270
Strothers	11- 9-6	2	1,089
Carter:			
McMan	11- 9-6	1	678
Gypsy:			
Cudjo	4- 9-6	3	587
Nevins	32-10-6	2	581
Magnolia:			
Varnum	32-10-6	2	526
W. F. Varnum	5- 9-6	1	35
Mid-Continent:			
Grayson	34-10-6	4	20
Saloche	33-10-6	5	380
Mid-Con inent & Homaokla:			
Nevins	32-10-6	4	763
Papoose:			
Marks	32-10-6	1	333
Pine:			
Lula	4- 9-6	1	10
Prairie:			
Cannon	33-10-6	1	1
J. Carter	10- 9-6	1	3
Houch	33-10-6	1	3
Hurford	33-10-6	1	22
Kincaid	33-10-6	2	53
Wimer	22-10-6	1	15
Pure:			
Aldridge	3- 9-6	3	578
Shell:			
Strothers	3- 9-6	4	222
Crump	32-10-6	1	Off
Sinclair:			
Polly	3- 9-6	4	1,460
Superior:			
Varnum	4- 9-6	1	20
Texas:			
Fleet	4- 9-6	1	17
Twin State:			
Varnum	4- 9-6	2	125
Wilcox:			
Chupco	4- 9-6	6	194
Total		83	11,890

PRODUCTION OF ST. LOUIS POOL

Average daily production for the St Louis Pool for the week ending October 16:

Amerada:			
Richardson	16-7-4	1	21
Atlantic:			
Bess	9-7-4	1	126
Burke	16-7-4	3	563
Bewley	9-7-4	1	36
Mildrum	15-7-4	1	104
Atlantic-Darby:			
Standridge	10-7-4	1	94
Barnsdall:			
Stahl	30-7-4	3	526
Blackwell:			
Cherry	25-7-4	3	590
Lewis	24-7-4	2	101
Carter:			
McGee	26-7-4	1	20
Darby:			
Harber	23-7-4	1	30
Nixon	9-7-4	2	225
Youngblood	16-7-4	4	645
Cardwell	15-7-4	1	294
Empire:			
Bettis	17-7-4	1	148
Jackson	36-8-4		310
State	36-7-4	1	150
Gypsy:			
Bruno	25-7-4	4	73
Collins	25-7-4	4	453
Dodson	26-7-4	4	106
Green	17-7-4	5	1,266
Johnson	29-7-4	1	25
Johnson, W.	7-7-4	1	Off
LeClair	23-7-4	4	1,564
Rosemond, No. 1	26-7-4	4	456
S ahl	30-7-4	8	132
Healdton:			
Hines	17-7-4	1	44
Home Gas Co.:			
St. Louis	14-7-4	1	239
Houston Oil:			
Wyatt	17-7-4	3	781
Independent:			
Barrow	1-7-4	3	566
Blandin	30-7-4	5	1,078
Youts	19-7-4	8	3,077
Independent-Darby:			
Brown	14-7-4	2	12
Carson	23-7-4	1	Off
Davis	15-7-4	1	Off
Freid	23-7-4	2	76
Jordon	10-7-4	1	25
LeClair	23-7-4	1	49
Pappan	16-7-4	2	689
Pillar	15-7-4	1	3
Standridge	14-7-4	3	32
Wallace	14-7-4	4	87
Independent et al:			
Hambry	14-7-4	2	20
Was	30-7-5	1	22
Welafelt	2-7-4	1	1,192
Independent-Skelly:			
James	16-7-4	2	231
Null	35-8-4	1	202
Independent-Westland:			
Booze	9-7-4	1	39
Rhodd	16-7-4	3	667
I.T.I.O.:			
McGee	26-7-4	1	165
Shobe	35-8-4	2	205
Weams	21-7-5	1	83
I.T.I.O.-Sinclair:			
Woodard	18-7-5	1	50
Inter-Ocean:			
Coley	24-7-4	1	17
McGee	23-7-4	5	245
Irvin & Martin:			
Kelly	2-7-4	3	655
Magnolia:			
Banta	14-7-4	3	164
Billing on, C.	11-7-4	1	7
Brandenburg	18-7-5	5	1,274
Bullock	18-7-5	1	1
Caudle	13-7-4	2	96

Company, farm —	Location	Wells	Prod.
Cherry "A"	25-7-4	5	406
Cherry "B"	26-7-4	3	199
Clour	11-7-4	2	21
Davis, C. E.	24-7-4	1	10
Davis, Frank	15-7-4	2	15
Engle	34-7-4	1	50
Fyke, George "A"	20-7-5	1	161
Fyke, George "B"	20-7-5	2	289
Fyke, L. L.	20-7-5	1	5
Fyke, Tulle "A"	20-7-5	1	90
Fyke, Tulle "B"	20-7-5	2	314
Fyke, Tulle "C"	20-7-5	1	37
Fyke, Tulle "D"	20-7-5	2	302
Fyke, Tulle "E"	20-7-5	1	10
Green, B. M.	13-7-4	1	7
Green, Lulla	13-7-4	1	77
Guinn	20-7-5	1	23
Harden	12-7-4	2	199
Hatcock, C. D.	11-7-4	1	9
Hatcock, Lee	11-7-4	1	69
Harper	19-7-5	1	12
Harper, James	19-7-5	2	9
Hembree	19-7-5	4	103
Hilton	22-7-4	1	44
Jones "A"	18-7-4	1	81
Jones, M. A.	8-7-4	1	24
Kiner	17-7-5	1	3
Latimer	17-7-4	2	196
Louis, J. L.	15-7-4	1	11
Lynn, D.	21-7-4	1	286
Mull	15-7-4	1	1
Lynn, F.	21-7-4	1	20
Nicklass	31-7-5	2	70
Nona	11-7-4	1	41
Pugh	7-7-5	1	Off
Richardson	17-7-4	2	469
Risenhoover	14-7-4	4	12
Robbins, J. M.	15-7-4	4	171
Robbins, Pearl	15-7-4	1	49
Rowe, I.	18-7-5	1	17
Rowe, M.	18-7-5	1	5
Shipshewano	19-7-5	4	76
Singletary, D.	15-7-4	1	31
Singletary, F.	23-7-4	3	23
Singletary, T.	14-7-4	3	55
Tartar	15-7-4	1	113
Vieux, F.	13-7-4	1	9
Vieux, N.	13-7-4	1	1
White, Roy	20-7-5	1	7
Wilborn, Mary	24-7-4	2	413
Wilborn, S. A.	24-7-4	6	667
Youts, Charles	20-7-5	5	227
Younts, C. A.	19-7-5	4	430
Younts, H. E.	20-7-5	7	1,174
Magnolia-Pierce:			
Hubanks	17-7-4	2	895
McCulloch, et al:			
Bruno	25-7-4	5	674
Smith	25-7-4	6	878
Mid-Continent:			
Decker	8-7-4	1	80
Robbins	9-7-4	1	25
Quinn	20-7-5	1	21
Mid-Kansas:			
Getzelman	25-7-4	4	710
Lunay	30-7-5	3	350
Minnehoma:			
Simms	16-7-4	1	345
Packard:			
Church	29-7-5	1	615
Pan.her:			
Town Lot	14-7-4	2	35
Phillips:			
Cherry	25-7-4	2	126
Grace	2-7-4	1	66
Lydick	24-7-4	1	20
Stahl	30-7-5	4	186
Prairie:			
Desmond	25-7-4	4	86
Ellison	25-7-4	4	270
Gammon	30-7-5	8	2,726
Hembree, A. O.	19-7-5	4	1,049
Hembree	18-7-5	1	13
Linn	30-7-5	4	428
Smith	30-7-5	3	28
Wolf	29-7-5	4	1,950
Younts	19-7-5	4	210
Prairie et al:			
Davis	18-7-5	4	68
Nesbit	18-7-5	2	241
Pugh	7-7-5	1	20
Prairie-Shafer-Independent:			
Cummings	17-7-4	2	305
Regan	17-7-4	2	2,408
Rice	17-7-4	2	136
Pure:			
Dodson	26-7-4	2	100
Brandenburg	21-7-4	1	108
Thomas	26-7-4	4	3,125
Thrilkill	19-7-5	1	60
Tolen	1-7-4	1	105
Shaffer O. & R.:			
Cherry	23-7-4	4	132
Tolen	30-7-5	4	371
Shell:			
Smith	21-7-3	1	81
Hines	22-7-4	1	321
Stahl	30-7-5	1	47
Younts	28-7-5	1	16
Sinclair:			
Blandin	24-7-4	13	1,370
Brandenburg	7-7-5	3	775
Bruno	28-7-4	2	460
Coley	24-7-4	2	240
Gilbreath	25-7-4	2	750
M-Qua-Ka	11-7-4	1	75
Nadash	29-7-5	4	525
Neeley	25-7-4	4	575
Neeley "B"	25-7-4	2	595
Nesbit	18-7-5	8	1,710
O-Kitchee	19-7-5	7	630
Sinclair, et al:			
Kelly "A"	2-7-4	2	450
Skelly:			
Decker	16-7-4	1	744
Slick-White Eagle:			
Latimer	16-7-4	2	547
Superior:			
Caudle	24-7-4	2	40
Jackson	36-8-4	1	60
Texas:			
Cherry	25-7-4	4	190
Zoeller	30-7-5	1	31
Tidal:			
Smith	26-7-4	1	20
Warner-Quinlan:			
Light	18-7-4	1	66
Wes.heimer-Daube:			
Freid	24-7-4	5	534
Garrett	23-7-4	2	66
Westheimer-Daube-Gypsy:			
McGee	23-7-4	5	95
Wyatt:			
Fee	10-7-4	1	20
Total		424	57,281
Asher Pool			
Commerce Development Co.:			
Townsite	19-6-4	1	Off
Independent:			
Gardiner	19-6-4	1	163
Prairie-Slick:			
Laster	19-6-4	7	2,708
Carpenter	19-6-4	1	886
Simms:			
Laster	19-6-4	5	2,804
Slick:			
Bledsoe	20-6-4	1	44
Alexander	19-6-4	1	157
Weldon	20-6-4	2	120
Slick-Amerada:			
Walker No. 1	19-6-4	2	284
Texola:			
Townsite	19-6-4	1	20
Total		22	7,186
Sasakwa Pool			
Carter:			
Aldridge	7-6-8	1	30
Phillips	18-6-8	1	50
Doves	7-6-8	1	80
Spillman	7-6-8	1	15
I.T.I.O.:			
Hotolka	7-6-8	2	1,270
Prairie:			
Patton	18-6-8	2	72
Diamen:	12-6-7	1	1,022
Shell:			
Holatka	7-6-8	2	239
Pure:			
Bates	13-6-7	2	3,313
Signal:			
Bond	13-6-7	3	1,818
Sinclair:			
Davis "A"	7-6-8	6	3,941
Davis "B"	7-6-8	1	Off
Tiger	5-6-8	1	90
Texas:			
Bruner	9-6-8	1	40
Bryan	9-6-8	1	50
Twin State:			
Marshall	6-6-8	1	Off
Total		27	12,030

ALABAMA'S POSSIBILITIES AS A PRODUCER OF OIL AND GAS

The Geological Survey of Alabama, Walter Bryan Jones, state geologist, has issued a book entitled Oil and Gas in Alabama (Special Report 15), the author of which is Douglas R. Semmes, Ph.D., Petroleum Geologist, No. 25 Broadway, New York. The work comprises a book of 408 pages, well illustrated and accompanied by maps and charts, and goes into the subject with great thoroughness. On the outlook for oil in Alabama, Doctor Semmes says:

"Good showings of oil and gas have been encountered in many parts of Alabama and some of the formations penetrated in tests are distinctly petroliferous.

Outline map of Alabama showing the eight geological provinces.

In northern Alabama the limestones and shales of the Mississippian and Ordovician offer good source rocks, though the comparatively high degree of metamorphism, as indicated by the high percentage of fixed carbon in the coals, is an unfavorable factor. In northwestern Alabama large flows of gas have been found in Fayette and Lamar Counties, and it is quite possible that commercial fields of gas may be developed in this area.

"In the greater part of northern Alabama the formations are well exposed and the surface structure can be accurately determined. In northwestern Alabama the structures of the coal measures can be closely determined from the coal seams and it is possible to construct detailed structural maps.

"In southern Alabama, a region of soft rocks, the problem of finding oil is much more difficult. No definitely petroliferous series and no particularly favorable reservoirs are known, but shows of oil and gas have been found in many wells. Structures are less plentiful and the most favorable of these have been drilled, but these structures are not condemned; they are merely dormant. Geophysical work will be done, more information and more reliable well logs will be at hand, deeper wells will be drilled and production may be found. Interest is already reviving in southwestern Alabama and there is no doubt that the larger oil companies will consider this region favorably.

Three Major Geological Provinces

"Alabama is properly subdivided into three major geological provinces: The northern, Paleozoic area, in portions of which oil accumulation in commercial quantities is possible and locally even probable; the crystalline region, bordered on the north by high folded metamorphosed sediment, in which the occurrence of oil deposits is impossible, and the southern coastal plain region, in the greater part of which the accumulation of oil would be possible.

"In the following counties commercial accumulation of oil is considered impossible: Chambers, Chilton, Clay, Cleburne, Coosa, Elmore, Lee, Randolph, Tallapoosa, and a part of Talladega, with the remainder of Talladega improbable.

"The counties in which production is possible are Baldwin, part of Barbour, Butler, Choctaw, Clarke, Coffee, Colbert, Conecuh, Covington, Crenshaw, Cullman, Dale, Escambia, Fayette, Franklin, Geneva, Henry, Houston, Jefferson, Lamar, Lauderdale, Lawrence, Limestone, Madison, part of Marengo, Marion, Mobile, Monroe, Morgan, Pickens, part of Pike, part of Tuscaloosa, Walker, Washington, Wilcox and Winston.

"All other counties are characterized as improbable for commercial production.

Major Provinces Subdivided

"The major geological provinces may be further subdivided particularly from the point of view of oil possibilities, into eight distinct provinces, in each of which the geological conditions are either slightly or entirely dissimilar, giving rise to eight territories in which the possibilities for oil and gas would vary according to the nature and structure of the rocks involved. On the accompanying outline map of the state these provinces are shown. As can be readily recognized the boundaries of the provinces roughly coincide with boundaries of the different geological formations. In some cases, however, the boundaries follow changes in structure rather than differences in the age of the formations. Moreover, as the subdivisions of the State into these provinces is purely from the point of view of possible oil and gas production, the boundary lines are indefinite, and even though they generally correspond with those of the geological formation they do not necessarily do so.

Province 1—Impossible territory. The crystalline area is composed of rocks of pre-Cambrian age in most parts, which are so highly metamorphosed that neither oil nor gas accumulation is possible.

Province 2—The Paleozoic area of highly folded and faulted sedimentary rocks extending as far northwest as the 65 per cent isocarb and southwest until overlapped by the Cretaceous formations. This area represents the southern end of the folded Appalachian Mountains and it can be considered as extremely improbable territory for oil accumulation. The accumulation of gas, however, is possible, particularly in the western and northern portion of the province, provided the local structural conditions are favorable.

Most Favorable Area

Province 3—The Plateau region and the Tennessee valley; a province of approximately horizontal or gently warped Paleozoic sediments, comprising a petroliferous series in which there are four or five distinct potential oil and gas horizons. This area is probably the most favorable area for oil and gas production in the northern part of the State.

Province 4—That portion of the plateau region where the petroliferous series, that is, the Paleozoic sediments, is concealed by the unconformable cover of the gravels and clays of the Cretaceous formations, so that it is difficult for the geologist to determine the structure of the formations in which the oil, if present, occurs. The eastern boundary of this province is indefinite, as in this area the Cretaceous sediments cover the upland areas while the Paleozoics are exposed along the streams. The possibilities for oil or gas accumulations in this province are the same as in Province No. 3, but owing to the additional cover, drilling will have to be continued deeper and prospecting carried on by wildcatting.

Impossible Territory

Province 5—Impossible territory. The southernmost tip of the Appalachian Mountains which is covered by the overlapping Cretaceous strata. This province is considered impossible territory because the Paleozoic formations are not only intensely folded and faulted, but are wholly concealed by an unconformable cover.

Province 6—Impossible territory. The metamorphic rocks of the crystalline area (Province No. 1) which are covered by the overlapping Cretaceous formation. As the Cretaceous formations in this province do not show the characteristics of a petroliferous series sufficiently covered to entrap oil, they can be eliminated as possible oil producing series, and beneath them in the crystalline rocks oil accumulation is likewise impossible.

Province 7—A region of Tertiary sediments dipping gently to the south and overlying conformably a series of Cretaceous formations which as developed in depth in this province show many of the characteristics of a petroliferous series. The Cretaceous series is partly marine in origin and is locally folded so that structures favorable for the accumulation of oil and gas are developed and these structures can be recognized as such by the geologist making an examination of the area. It is possible, however, that these sediments contain insufficient bituminous content to give rise to commercial quantities of petroleum.

Province 8—A region in which the geological conditions are the same as in Province No. 7, except that the possible petroliferous series is more deeply buried (2,000 to 5,000 feet) and the surface is formed by unconsolidated material, so that the geologist is unable to locate definite structure from surface data. It is in this area that prospecting by geophysical methods may prove profitable for up to the present time the most encouraging shows of oil in southern Alabama have been found in wells drilled in Mobile County. This province, together with Provinces 7 and 3, comprise the most favorable oil territory of Alabama.

COSDEN P. L. STATEMENT

In the month of September the Cosden Pipe Line Co.'s runs were 841,285 bbls., daily average 28,043 bbls.; shipments 827,229 bbls., daily average 27,574 bbls.; stocks 3,319,518 bbls.

Practical Suggestions in Refining

By W. T. Ziegenhain

LITHARGE AND GLYCERIN USED TO SEAL LOOK BOX

As a convenient and cheap substitute for preparations made to seal small leaks in oil lines, etc., a mixture of ordinary litharge and glycerin may be used. This, in the form of a thin paste applied immediately after mixing makes a very satisfactory sealing material on gaskets and one very general use for the material is in sealing glasses in the look boxes.

The material has the distinct advantage over many other materials commonly used as fillers in that it is not soluble in gasoline or oil vapors and it sets up to form a durable hard cake. It has the disadvantage of setting up very quickly after it is mixed and it cannot be satisfactorily used where a large surface must be covered at once, unless the work is well planned and several men there to handle the job.

For ordinary use the litharge and glycerin are mixed in small quantities in such proportions as to make a very thin paste. This is spread on to the gasket or surface to be sealed and within five minutes of the time the first is applied, the parts must be in place. As in the case of all cementing materials, the surfaces must be reasonably clean and the material applied fairly even over the surface.

When first applied it has a reddish yellow color but in time the outer surface becomes gray and finally black, showing a metallic luster. This indicates the formation of lead sulphide and serves as a protective coating for the rest of the cake. This coating is brittle and will break if hit with a hard surface and it will crack and break away if subjected to a vibration in which the parts sealed are under a strain.

TIDE WATER STARTS CLASSES

NEW YORK, Oct. 19.—Joseph A. Kelly, educational director at the Tide Water Oil Co. refinery at Bayonne, N. J., has announced the schedule of classes to be held at the refinery school, the current term of which opened October 14.

Classes have been arranged to suit the convenience of the men in the plant, and if other classes are indicated, they will be formed. In announcing the schedule, Mr. Kelly says:

"Registration for the process classes so far has been confined almost exclusively to men in the processing departments. It is of great importance that the men in the mechanical departments get a comprehensive idea of how their work ties up with the refining of petroleum. It is hoped that many of the men in the mechanical packing and shipping departments will avail themselves of this opportunity, as they will thus fit themselves for positions in the processing departments."

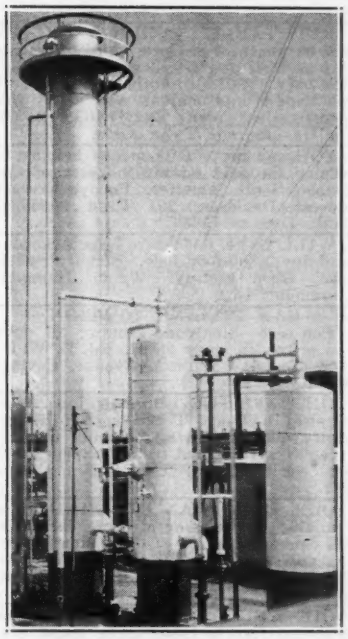
GRANT PUMP PATENT

WASHINGTON, D. C., Oct. 19.—The prior art combination of a water pump and an air pump was held by the Board of Appeals of the United States Patent Office not to anticipate the combination of a gasoline pump and a fuel oil pump in a consolidated unit in the case of Ex Parte Ernest R. Huntley relating to patent No. 1,729,723 issued October 1, 1921, to said Huntley for a fuel feed system.

This opinion holds that the association of a diaphragm pump especially suitable for pumping gasoline with a fuel oil pump in a consolidated unit in a gasoline engine involves patentable novelty and as a result of this opinion the patent was granted for a fuel feed system to Ernest R. Huntley.

ABSORBER AND STABILIZER MADE PART OF PRESSURE STILL UNIT

Two common problems in connection with the operation of the cracking unit at the Eldorado Refining Co.'s plant at Eldorado, Kans., have been economically worked out by T. A. Helling, general manager, and G. C. Anderson, superintendent. One of these was the recovery of the gasoline from the tail gases and the other the stabilization of the pressure distillate used for the pump-in over the



Equipment at the Eldorado Refining Co.'s plant at Eldorado, Kans. The tallest tank in the group of three is an absorber for the extraction of vapors from the pressure still gases and other plant gases. The middle tank serves as the separator for the pressure distillate and the smallest tank is the stabilizer for the knockback stream.

tower in order to eliminate chances of an irregular supply due to gases binding the suction end of the feed pump.

The manner of recovering the gasoline from the tail gases is unique because this operation has been tied into the pressure still operation, eliminating a separate distillation unit for the recovery of the gasoline. It also has the advantage of operating under a pressure supplied by the cracking unit permitting a more complete absorption of the vapors in the gas oil used as the absorbing medium.

A picture of the absorber is shown below. It is the tallest of the three aluminum painted tanks shown. There is nothing unusual about the construction of the absorber but it has a high operating efficiency. The absorber stands 42 feet high and is 3 feet, 6 inches in diameter. It was designed heavy enough to withstand operating pressures up to 50 pounds but the normal operating pressure is approximately 25 pounds. It contains bubble cap sections spaced 2 feet apart, starting above the level of the liquid maintained in the absorber. The bubble caps are each approximately 4 inches in diameter and a maximum number has been placed in each plate section.

Ordinary 36 to 36.5 gravity straw colored overhead gas oil, made from Kansas crude is taken as the absorbing medium and no trouble has been found in using a rather wide range of quality of gas oil. Gas oil, contaminated with a small amount of residue fuel oil has been used unintentionally and no trouble was noted in the operation and no apparent drop in the operating efficiency of the plant was noted.

The gas oil is pumped into the top of the absorption tower under a pressure of 25 pounds and allowed to trickle down through the tower over the bubble caps. The rich gases are passed up through the tower in the regular manner and the enriched gas oil is continuously withdrawn from the base of the tower. Only a few feet of gas oil is maintained in the base of the tower as may be seen on the liquid level indicator. The balance of the tower, or approximately 37 feet of it is left for the absorption of the vapors by the gas oil. The residue gas is taken off at the top of the tower and is burned under the stills.

Tests on Residue Gas

The enriched gas oil is approximately 1.2 degrees higher in gravity than the raw oil entering, showing the effect of the gasoline absorbed. This enriched gas oil is fed into the cracking unit along with the regular charging stock and the gasoline is recovered in the condensers with the pressure distillate. Thus a separate distillation unit is dispensed with and the capacity of the cracking unit is not affected.

The efficiency of the condensers is sufficiently high to keep the gasoline content of the cracked gases from building up appreciably due to the return of the recovered vapors to the unit. There is also a large volume of pressure distillate to hold the recovered light fraction. To prove the value of the recovery system, the tests on the residue gases show consistently less than .4 gallon per 1,000 feet of gas. The incoming gas has not been tested consistently and there is a varying richness in the gas due to the fact vapors are also taken from the gasoline storage tanks and from the topping stills and pumped through the absorber. A reasonable average has been estimated as 6 to 8 gallons per 1,000 feet so the effectiveness of the unit is apparent.

Approximately 30 bbls. of gas oil is pumped over the tower each hour and the gas passing through the tower will average close to 11,800 feet per hour.

Stabilizer for Pump-In

The other unique arrangement in connection with the operation of the cracking unit is that whereby the pressure distillate pump-in is stabilized to permit the feed pump to pull a constant volume. This was accomplished by using a 4-foot by 16-foot vertical tank as a supply tank for the pump-in. This tank is shown in the picture as the smallest of the three aluminum painted tanks. The pressure distillate coming off at the bottom of the separator, the middle tank, is under a pressure of about 25 pounds, the operating pressure of the whole system. The stream from the bottom of the stabilizer is split, part of it going into the top of the stabilizer tank and the balance of it goes directly to the pressure distillate storage tanks.

The distillate enters the top of the stabilizer through a bell-shaped nipple. Fitted into this nipple above the inlet is an outlet or overflow line. The tank itself is thus kept full at all times, any excess distillate coming into the tank being removed through the overflow line. This overflow line feeds back into the line going to the distillate storage.

The feed line for the pump supplying the knockback for the control of the tower on the cracking unit comes off the bottom of this stabilizer. This arrangement not only supplies a flooded suction for the pump but a head of 16 feet of liquid in addition to the 25 pounds gauge pressure on the system is present. The stabilizing is accomplished first by the fact any gases entering through the line from the stabilizer pass up through the nipple and do not enter the stabilizer tank and those gases or vapors which form in the stabilizer, rise to the top and the distillate withdrawn from the base of the tank is relatively free. The stabilizer is sufficiently large in capacity to permit a relatively long time for the distillate to pass down through and in turn, this permits a longer time for the vapors to be freed.

Recent Patents

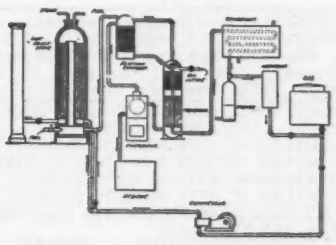
RECYCLE VAPORS IN TOWER

1,730,891. Process of and Apparatus for Distilling Petroleum. Eugene H. Leslie and Edwin M. Baker, Ann Arbor, Mich. Filed March 20, 1923. Serial No. 626,275. 14 Claims. (Cl. 196—100.)

Apparatus for distilling liquids comprising, in combination, means for heating the liquid, a flash vaporizer; a fractionator comprising a number of sections placed one above the other, with means for introducing vapor at the bottom, reflux means for returning condensed vapor at the top, means for permitting countercurrent contacting of liquids and vapors and for trapping and collecting liquid, and means for permitting the withdrawal of liquid products from sections as desired.

CRACK IN PRESENCE OF HYDROGEN

1,715,239. Method and Apparatus for Treating Compounds Preferably of a Hydrocarbon Nature. William John Knox, New York, N. Y., assignor, by mesne assignments, to Petroleum Conversion Corp., a corporation of Delaware. Filed September 9, 1922, Serial No. 587,191, and in Canada August 24, 1922. Renewed April 16, 1929. 44 Claims. (Cl. 196—62.)



1. The process of producing hydrocarbon compounds, which consists in feeding a liquid hydrocarbon into a chamber, heating said liquid hydrocarbon while in said chamber by contacting heated hydrogen containing gases therewith, subjecting the hydrocarbon coming into said chamber to a preliminary partial fractional distillation by thermally contacting the heated gases and vapors from said chamber therewith and passing the vapors and gases from said fractional distillation directly into said chamber.

9. In an apparatus for treating hydrocarbon oils, a heating element, a reaction chamber, means for feeding hot vapors and gases from said heating element to said reaction chamber, means for feeding gas and vapor to said heating element, means for conducting the products from said reaction chamber in heat exchange relationship to incoming oil, whereby a portion thereof is vaporized, and means of conducting vapor so produced by said heat exchange to said heating element or said reaction chamber as desired.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

FOR SALE—EQUIPMENT

TANK CARS

NINE — 10,000-gallon, fifty ton trucks, Arch Bar Type.

TEN — 8,000-gallon, forty ton trucks, Cast Steel Side frame type.

MODERN steel tank cars, "Class Three." A-1 condition in all respects, prompt delivery. Price upon application.

J. F. O'Brian

Ft. Worth National Bank Bldg.
Ft. Worth, Texas.

FOR SALE—Two No. 10 Sweetland Filters, with monel leaves. Stein-Brill Corporation, 25 Church Street, New York, N. Y.

FOR SALE: two Star Drilling Machines with tools. Numbers 28 and seven steam outfits. Booe & Stevenson, Chanute, Kans.

T-A-N-K-S

1—1,500 gal. Tank. 3 ft. dia. 26 ft. long, 7/8" shell, 1½ in. convex heads, 500 lbs. working pressure, first class.

1—10,000 gal. Extra Heavy Demounted Tank Car Tank, has heater coils, overhauled. Tested, Painted, Guaranteed. In stock East Saint Louis.

250—High Pressure Air Tanks, 21 in. x 9½ ft. Originally built for 600 lbs., good for at least 300 lbs. Removed from Pullman cars. Price $35.00 each f.o.b. St. Louis, Philadelphia, Chicago, San Francisco, Atlanta.

Anything in TANKS new and used.
ZELNICKER IN ST. LOUIS.

Ask for 50 page Bulletin. Bargains in Rails, Locomotives, Sheet Steel Piling, Cars. Power Equipment. We specialize in OIL ENGINES.

FOR SALE — Complete set Standard Tools. 12x12 AJAX engine (NEW). 2,000 ft. 6⅝-inch, 24-pound. 700 ft. 10-inch. 52-pound. 1,500 ft. 2-inch pipe. F. E. Turner. 217½ Broadway, Muskogee, Okla

READY FOR IMMEDIATE SHIPMENT
PRICED RIGHT
60 MILES 4" O.D. PLAIN END PIPE
11 MILES 12" O.D. PLAIN END PIPE
15 MILES 4" STD. SCREW PIPE
40 MILES 2" STD. SCREW PIPE
All sizes in casing and line pipe from 2" to 15½" inclusive.
PRODUCERS PIPE & SUPPLY COMPANY
612-13 Kennedy Building
Tulsa, Oklahoma

FOR SALE—Whitney steel derrick. Three-inch legs, 67 feet high. Good condition. Price $400, f.o.b. our Tulsa yard. Thermal Oil & Gas Co. Phone 2-6969, Tulsa.

WORTHINGTON COMPRESSOR, 2 stage, 28 cu. ft. capacity. D. Hansen, 620 Kennedy Bldg., Tulsa, Okla.

FOR SALE—Two 85 H.P. Watt Miller, direct connected Vacuum Pumps. Vacuum cylinder 18×20, Speed 180 R.P.M. 3 Gasoline Stock Tanks 6 ft. by 30 ft. ⅜ inch iron. Roth and Faurot, Independence, Kansas.

Two 48", two 36" and two 27" Carbondale wax presses. Have complete wax plant equipment also. Mid-Continent Equipment Company, Inc., Continental Oil Building, Denver, Colorado.

TANK CARS

For lease 8 000 and 10,000-gallon cars. Immediate delivery. Write, wire or phone.

HYMAN-MICHAELS TANK LINE, Inc.
Peoples Gas Building,
Chicago, Ill.

FOR SALE—EQUIPMENT

FOR SALE—Reconditioned pipe, casing and oil and gas well supplies. Lee Morrison Supply Co. Yards at Bartlesville and Sand Springs, Okla.

$2,000.00 takes nearly new No. 19 Ideal Rotary, drill stem, etc., also 210 ft. new 20-inch casing, 80 ft. 15-inch casing, 2 Mud hogs, new Hayes core bit., etc., quick action. 765 Elizabeth St., Denver, Colo.

PRICED TO SELL—7 brand new Charter Type "R" gas and distillate engines. We are quitting business and will sell at a sacrifice. Engines 20 to 70 H.P. Especially adapted for boosting or pumping purposes in natural gas field. Bought on contract and must be sold quick. Write for prices and detailed descriptions.

STERLING IRRIGATED LAND
AND IMPROVEMENT CO.
Box 120, Sterling, Illinois.

EQUIPMENT WANTED

WANTED: Rotary. Fort Worth Spudder, Super D., or 28 Star Steam Drilling Machine. Will pay difference, if any, between fine Boggy River Bottom land, Choctaw County, Okla., and outfit. Box 684, McAlester, Okla.

RANCHES AND FARM LANDS

RIO GRANDE VALLEY, Texas—The valley of golden grapefruit, the garden spot of the United States; sunshine and flowers. For any information write W. T. Jackson, Edinburgh, Texas, P. O. Box 162.

CHOICE Missouri farms for sale at bargain prices; can pay for some like rent. Write us your wants. Chas. R. Bowman, Butler, Mo.

BUSINESS OPPORTUNITIES

S. E. OKLAHOMA absolute title land bargains, 40 to 1,000 acre tracts of coal in new oil and gas field; $5 an acre up. John Cavanagh, McAlester, Okla.

WE ARE IN TOUCH with Eastern capital, for acquisition, development, and operation of meritorious oil enterprises. Send full particulars. O. E. and G. M. Maddox, 6323 Main Street, Kansas City, Missouri.

FOR SALE—Or partner wanted. Patent of first visible gasoline pump. All others are infringments. Write for information. Lee Wilson, Olvey, Ill.

REPUTABLE PUBLIC UTILITY will buy natural gas properties consisting of pipe lines and distribution or distribution only. Will also build systems where gas supply and market will stand full investigation. Write Box D-165, The Oil and Gas Journal, Tulsa, Okla.

YOU can make BIG money helping to develop the gold mining industry of Colombia, South America. For particulars address Davidson, 201 First National Bank, Denver, Colo.

WILL GIVE 6,000-acre lease Arkansas land for 1,800-foot hole. Strictly "wildcat." Good geology. W. C. Hammer, Claremont, Ill.

GAS FILLING STATION
For sale—Singly or groups; all sizes and prices, in many states. Ed. E. Walker & Co., 519 Madison Avenue, Covington, Ky.

OIL LOCATED before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses. 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

OUR EUROPEAN OIL FINDER is available for making drilling locations. The manufacturer of this instrument guarantees successful drilling locations. D. C. Oliphant, 19 West 44th Street, New York.

OIL AND MINERAL located with radio activity method. Have found several structures in Oklahoma and adjoining states. Need party lease or finance. Good references. Sievers, 1307 South Lawton. Tulsa, Okla.

WANTED capital to market Roberts Safety Guard Rail Appliance. Protects life on public highways. Simple, efficient and easily installed at small added cost per foot. Endorsed by leading Highway authorities. An attractive proposition to right parties. Inquire J. A. Roberts, Pres., Roberts Safety Appliance Co., Ashland, Ohio.

IN OUR ORGANIZATION there are a number of people looking for profitable investments. Please send particulars to World Bible Institute, 31 Fort Hill Circle, St. George, Staten Island, New York.

BAILEY, REAVES & SMITH

Oil and Gas Properties.

Specializing in royalty interests
Underlying lease-holdings of the
Major oil companies.
Inquiries invited.

MILAM BUILDING
San Antonio, Texas.

WEST TEXAS warranted and mineral lands. Two dollars. Ten year mineral lease sixty cents. Joe Cunningham, Big Spring, Texas.

PATENT ATTORNEYS

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form, Evidence of Conception.
Bulletin "How to Establish Your Rights and complete information free.
LANCASTER & ALLWINE
240 Ouray Bldg., Washington, D. C

LOYAL J. MILLER
Registered Patent Attorney.
626 Insurance Building,
Oklahoma City, Okla. Phone 3-1743.

HELP WANTED

CHEMICAL ENGINEER—For process design of oil refinery equipment, including pipe still furnaces, treating plant, general fractionating equipment, et cetera; man with at least three years' process experience in oil refinery, having worked preferably on design or test work; age 25 to 38; good salary; location, Elizabeth, N. J. Apply Standard Oil Company of New Jersey, 26 Broadway, New York City, Room 943.

REFINERY ENGINEER AND DRAFTSMAN
Opportunity for Mechnical Engineer Graduate. Experienced in Refinery drafting or power plant piping and boiler equipment. Age 28 to 35. Operating Experience desirable, but not essential. Send photograph and complete record of education and experience. Address Box D-192, The Oil and Gas Journal, Tulsa, Okla.

PRESSURE STILL OPERATOR
Opportunity for Pressure Still Operator. 5 to 10 years experience. Age 28 to 35. High School Graduate preferred, but one or two years of High School will qualify. Send photograph and complete record of education and experience. Address Box D-191, The Oil and Gas Journal, Tulsa, Okla.

BROKERS WANTED to sell our attractive leases and royalties in many Texas Counties. National Land Company, Box 73, San Antonio, Tex.

POSITION WANTED

ENGINEER AND EXECUTIVE, with refining and producing company. Experienced in design, construction and operation of refining and gasoline plants; also reports, appraisals, estimates and purchases. Broad scientific training and business experience. Address Box D-162, The Oil and Gas Journal, Tulsa, Okla.

ENGINEER, RESEARCH AND SALES, experienced designer and operator, would like engineering and sales promotion work (not peddling) introducing new processes or equipment of merit; where opportunity exists for a skilled, scientific investigator with business sense; of good personality and acquaintance throughout the middle west. Address Box D-163, The Oil and Gas Journal, Tulsa, Okla.

GEOLOGIST. Over two years field and subsurface experience with major companies in Mid-Continent area. Desire position with oil or royalty company. Write Box D-167, The Oil and Gas Journal, Tulsa, Okla.

GRADUATE GEOLOGIST desires position with an oil company in Mid-Continent Fields. Willing to start with a small salary. Experienced. References. Available at once. Write Box D-180, The Oil and Gas Journal, Tulsa, Okla.

CIVIL ENGINEER—Eleven years experience in oil industry. Thoroughly familiar with production, pipe line construction, and general engineering methods in oil fields. References furnished. Write Box D-184, The Oil and Gas Journal, Tulsa, Okla.

OIL FIELD-ELECTRICAL ENGINEER thoroughly practical, competent to design, install and operate equipment for electrification of leases, would like position as Chief Engineer or Production Foreman with reliable company contemplating electrification of leases. 5 years experience and now engaged in this line of work; references. Address Box D-190, The Oil and Gas Journal, Tulsa, Okla.

OIL INDUSTRY PRINTING

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township books, well records, etc. Request on your letter head gets free catalog. Old Press. 215 East Third St., Tulsa, Okla.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

FOR SALE—2,000-acre lease with good "sweet" gas well, Panhandle Field, Texas. M.E.B., care The Oil and Gas Journal, Tulsa, Okla.

20,000 ACRES. SOLID BODY. Six miles from railroad. Western Jeff Davis County, Texas. Ten year paid up lease one dollar per acre. Will sell in fee four dollars per acre. Good geology. Come here and check this up.
W. H. Colquitt, Owner
Box 274. Marfa, Texas.

FOR SALE OIL LANDS, LEASES AND ROYALTIES in Michigan, Oklahoma, Texas and New Mexico. Wire or write R. O. Zielinski, 12836 Wood Street, Blue Island, Ill.

LEASES FOR SALE
Located in the heart of Alberta's Oil activity. Priced right by owner. Northern Investments, 303 Alberta Corner, Calgary, Alta.

MINEOLA LEASES. For sale, small farm leases, on top of well defined structure. Best opportunity in the new field. Personal inspection invited. Perfect titles. L. D. Bertillion. Mineola, Texas.

PRODUCTION WANTED. We are in the market for producing properties up to 1,500 bbls. daily. Give all details as to price, pipe line runs, conditions of lease and property, amount of acreage and all necessary information. Address Box D-193, The Oil and Gas Journal, Tulsa, Okla.

1,800 Acres Allen County, Kansas, ¾ mile 2,000,000-ft. gas well, 350 lbs. pressure. Gas line south of lease $1.50 per acre; 2,940-Acre drilling block in Woodward County, Oklahoma, for well to Wilcox sand; or will give 5 or 10 year lease. Address R. O. Zielinski, 12836 Wood St., Blue Island, Ill.

TEXAS LEASES 25 cents per acre and up in several interesting counties. Own over 75,000 acres. General Investment Company, 321 North St. Mary's Street, San Antonio, Texas.

HAVE TEN ACRE TRACTS in Fee. Leases and Royalties, west Texas oil fields. Joe Cunningham, Big Spring, Tex

LAND, Leases, Royalties and Drilling Blocks in proven or unproven territories, Winkler, Pecos, Ward, Loving, Reeves, Culberson and adjoining counties. Wire or write.
H. F. Anthony, Anthony Bldg.,
Pecos, Texas.

WESTERN KANSAS leases and royalties ahead of the play; 25 cents and up. C. H. Reser, Lassen Hotel, Wichita, Kans.

FOR LEASE—25,000 acres prospective oil land in Coahuila, Mexico. Rights confirmed to owner by Mexican government. S. R. Gonzales, Naranjo 2, Altavista. Tampico, Mexico.

FOR SALE—Drilling blocks, commercial blocks, royalties, leases, checkerboards, in Hodgeman, Ford, Finney, Trego, Gray, Seward, Stevens and Morton Counties, Kansas. Lou Meyers, Box 471, Dodge City, Kansas. Office Phone 122. Reference any Southwest Kansas bank.

DRILLING blocks, leases, royalties in Ellis, Trego, Rooks, Norton Counties. Write or wire W. J. Madden, Hays, Kans.

ECTOR COUNTY well came in with 150-bbl. head in 15 minutes. Leases and Royalty for sale. Anderson, Linz Bldg., Dallas, Tex.

OIL PROPERTIES for sale, various sizes; La., Ark. Address, G. Lucas, 505 City Bank Building, Shreveport, La.

ARE YOU in on the next big Oil Play of Texas? Pure Oil Company drilled in big oil well on October 14th three miles west of Smith County line in Van Zandt County. Humble-Pure-Texas-Gulf-Amerada and other large oil companies already have large Blocks of Leases in Smith County. Oil Leases for two dollars and fifty cents an acre and up. No less than twenty-five acre lease handled. Royalty for eight dollars an acre basis. Write Richard R. Yoe, P. O. Box 291, Tyler, Texas.

LEASES—PRODUCTION

OIL LEASES AND ROYALTIES. Schleicher, Pecos, Ward and other counties. West Texas land and ranches. J. L. Ferguson, Rust Building, Box 462, San Angelo, Tex.

WEST 42 ACRES of the C. M. Burke Survey for lease at $10 per acre. Ten acres of J. M. Hudson survey for lease $20 per acre on fine structure for drilling. Northeast of Production, 1½ miles. Joined together. Edgar G. Brown, Post Oak, Texas.

BLOCKED ACREAGE, 88 form, shallow field, Kansas Little cash. Drilling wanted, at once. Mean business. W. L. Morris, Garnett, Kansas.

FOR SALE—Lease on 2,400-acre Flat Salt Dome, Dickson County, Tennessee, within mile of activity. Wire or write Pillow Williams, Nashville, Tennessee.

FOR SALE—36 producing oil wells, 10 bbls. daily settled production, can be increased to 50 bbls. daily, at small additional cost. Shallow Berea sand 490 to 590 ft. deep; 50 ft. good sand. Wells flush as high as 300 bbls. At least $10,000 worth equipment. 15 undrilled acres. Price $12,000 for quick sale.
C. E. KARNS (Driller)
Claremont Avenue,
Ashland, Ohio.

ADVERTISING RATES

	1 Time	2 Times	3 Times	1 Mo
3 lines	1.05	1.80	2.25	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

(Six words usually make a line)

Compute white space at the above rates

Mail your advertisement to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

MONEY RAISING

CAPITAL — An experienced, dependable broker will aid in financing propositions of merit. Amster Leonard, East Orange, N. J.

CORPORATE ORGANIZING and promoting of meritorious enterprises, reorganizations and new financing.
The Brookworth Co., Inc.
110 East 42nd. Street
New York, N. Y.

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security. Electric Bldg., Denver, Colo.

CAPITAL SEEKERS
Will endeavor placing proposition of merit on underwriting basis. Box 44, Room 407, 26 Court Street, Brooklyn, N. Y.

This is a most opportune time to sell your used equipment. Let a classified advertisement in The Oil and Gas Journal find buyers for you.

ROYALTIES—PRODUCTION

ROYALTIES in Ness, Trego, Rice, Sedgwick, Butler, Cowley and other Kansas Counties under or near drilling wells, some on core drilled blocks. Also Royalties in Winkler, Pecos, Ward, Presidio and other West Texas Counties. Tests and maps. James R. Haynes, Grantville, Kansas.

FOUR PERPETUAL and Fully Participating Mineral Deeds under 2,326 acres diversified as follows:

Gaines County, Texas ..	246 acres
Kendall County, Texas .	1,600 acres
Custer County, Oklahoma	320 acres
Jack County, Texas	160 acres

All four deeds paid for in full forever for only $50.00 and we pay for having your deeds recorded in your name in the various counties. You receive your portion of all lease rentals and bonuses as well as oil, gas, and other minerals. Prospectus showing maps, opinions of title, etc., gladly mailed upon request.
ROYALTY A MONTH CLUB
City National Bank Building
Wichita Falls, Texas.

WE DEAL in producing oil royalties and active oil stocks. Mail us your bids and offerings.
AMERICAN NATIONAL
BROKERAGE CO
E. T. Marion, Manager
12th Floor Athletic Club Bldg.
Dallas, Tex.

KANSAS ROYALTIES under drilling wells and core drilled blocks. Also Texas royalties. List free. Harry Haynes, Grantville, Kans.

EASTERN BROKERS — For Oklahoma producing royalties. Write Box 489, Shawnee, Okla.

YATES POOL ROYALTY
WILL sell 1 acre or more Sections 19 and 19, Blk. 194, Pecos County at $250.00 per acre. Glen Myers, San Angelo, Texas

SEND NOW FOR attractive list of leases and royalties owned by us in over ten live Texas Counties. Alamo Investment Company, Box 774, San Antonio, Texas.

ROYALTY and Leases in Western Oklahoma and Southwestern Kansas for sale at low prices. Sain & Company, Forgan, Okla

FOR SALE—Lea County deeded oil royalty. CASH paid for Lea County Oil Leases.

FOR SALE—Southeast N. M. oil leases EASY TERMS, small investment. Monarch Inv. Co., Roswell, N. Mex.

ACTIVE WEST TEXAS ROYALTIES $8 per square mile. Big company operation. See maps and bulletins. R. R. Fisk. Box 1214-B, Wichita Falls, Tex.

PERPETUAL ROYALTY INTERESTS
TWENTY DOLLARS WILL BUY perpetual royalty deed covering 640 acres in Hudspeth County, Texas. For information write William J. Rittinger, Box 25. Wilkinsburg, Pa.

OIL LEASES, royalties, producing royalties, and drilling blocks. O. O. Milliken, Box 63, Oklahoma City, Oklahoma.

J. A. WOLF & COMPANY
127 N. Dearborn, Chicago, Illinois
We deal in Oklahoma Royalties exclusively.

FORGINGS

DROP FORGINGS
We are in a position at this time to name some mighty attractive prices and delivery. Any size from any steel. Allowing us an opportunity to quote will not be regretted.
W. P. PAUL CO.,
PHILADELPHIA, PA.

FOR SALE—MAPS

NEW MAP OF
MID-CONTINENT OIL FIELDS
Suitable for pocket or desk top, showing counties and producing areas in Oklahoma, Kansas, Texas, Arkansas, Louisiana and Eastern New Mexico. Postpaid for $1.
KELLY MAP CO.
P. O. Box 1773, Tulsa, Okla.

REAL ESTATE

FOR SALE—Several tracts of mineral rights. Have one tract of 16,000 acres, another of 715 acres, which have been core-drilled and open pitted. Our geological report gives 240,000,000 tons of Rock Asphalt on the large tract and 4,000,000 tons on the small tract. For complete data address
W. P. HARLEY, Bowling Green, Ky.

58,000 ACRES deeded and leased land, Northeast New Mexico. Fine grass, running water, good improvements. Sell worth the money. McNabb Land Co., Box 1231, Amarillo, Tex.

FOR SALE—Model cattle ranch, on top of the Ozark Mountains. An estate of 490 acres, including two miles of White River. Highly improved; modern in every way; complete in every detail. Very productive, one-half in cultivation. Ideal all-year-round home. Ten room modern house with heat, light, baths, and running water. Cash or terms. Write owner, Charlie H. Clouston, Rogers, Ark.

WEST TEXAS OIL lands. Fee, lease, royalty. Joe Cunningham, Big Spring, Texas.

FOR SALE—2,100-acre estate with proven vein of bitumen asphalt 16 feet thick, tested for road surfacing and roofing, only one-fourth mile from railroad. If interested, complete information, samples and price will be furnished. Address W. C. Pickens, Poteau, Okla.

80. IMPROVED, on state road; equipped; $1,200; 120 imp., 10 acres fruit, $2,500; 200 imp., valley tractor land, $4,000 terms. Arthur, Mtn. View, Mo.

WARRANTED MINERAL lands. Rail road crossing tract, near El Paso, Texas, in Mexico. Sixty cents. Joe Cunningham, Big Spring, Texas.

Results from consistent advertising in the right medium are accumulative. Use The Oil and Gas Journal Classified wants week after week.

WANTED

HAVE YOU REAL BARGAIN? "Perpetual royalty" profit possibilities. Mail particulars. Investor, P. O. Box 382, Troy, N. Y.

WANTED TO BUY shallow production with undrilled locations. Gas on lease must be suitable for casinghead gasoline plant. If gas is contracted for give date contract expires. Address Box D-151, The Oil and Gas Journal, Tulsa, Okla.

LARGE WELL EQUIPPED plant with plate fabricating shop, pattern shop, foundry and machine shop wishes to secure patented specialties to manufacture. Complete information should be submitted for consideration. Address Box No. D-166, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Engineering and financial aid in the development of parking system utilizing 75% to 85% floor space. Box 393, Bartlesville, Okla.

WANTED. Drilling contractor (standard) to put down 4,000-foot hole on location between two producing wells. Pay in oil. Address, 11 Estes Bldg. Shawnee, Okla.

WANTED
GAS SERVICE STATION in any large City—cash; send full particulars. Write Box D-185, The Oil and Gas Journal, Tulsa, Okla.

INCORPORATIONS

CHARTERS—Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE incorporator. Charters, fees small, forms. Charles G. Guyer, 901 Market St., Wilmington, Del.

Chicago Gasoline Situation Unchanged

Orders on Contracts Coming in Steadily but Spot Business Limited to Immediate Needs. Furnace Oil Hopeful

By J. B. Waldo

CHICAGO, Oct. 21.—There was no real change noticeable in the gasoline situation on Monday.

Orders on contracts are coming along very steadily, while the spot business was for the immediate needs of the jobbers and was fair in volume. The prices were a little more firmly held at the beginning of business but later in the day were under the influence of the uncertainty regarding the future of prices which came as a result of the decline in California crudes. Buyers hesitated to purchase more than they had to have until assured that this decline would not be followed in other fields. The result was that prices were left unchanged from the close of last week. The major refiners continued to quote 7¾ cents as their spot price, but spot buyers were commonly quoted from 7 cents down to 6¾ cents Group 3 by other sellers with many sales at 6⅞ cents. Higher tests were a little more firm due to some higher quotations from the field where export buying was reported.

Kerosene was quiet and easy in tone. The weather was slightly cooler and this gave a more hopeful feeling to the furnace oil market. Prices were held at the level of last week, although the demand was light for distillates and zero gas oils. There was some inquiry for prices over November or for flat prices to the end of the year and some offers were made for the period at present asking prices of refiners.

Industrial fuels were in fair inquiry and the quotations made were the same as were generally quoted last week.

The remarkably fine fall weather has continued another week and is giving distributors a large gasoline outlet for the season of the year. There is nothing in the present situation to induce the jobbers to add to stocks and the trade is buying only as they need gasoline. The good weather may continue for another month or more but the gasoline consumption will not increase and weather conditions may become unfavorable at any time, so jobbers are not optimistic regarding the gallonage and see no possible chance of a price increase. Their talk is all in the contrary direction and whatever change is made must be, they believe, downward. There is a wide margin between the refinery costs and the station and tank wagon prices and this makes the business most profitable. In fact with the price to the public unchanged and the cost of gasoline to the jobber gradually declining it is probable some stations are really making as much money for their owners today as they did last August when the gallonage was larger but the margin of profit was smaller.

The price situation has only changed to the extent that tank car prices to spot buyers declined slightly during last week. At the beginning of last week, a great number of the sales made to spot buyers by those who sold at the going market basing their price on the cost to them of gasoline out of the Group, were at 7 cents for U. S. Motor gasoline. By the close of the week it had become difficult to sell at the 7-cent price and the general quotation was 6⅞ cents with sales made at 6¾ cents becoming common. The major refiners were holding for 7¾ cents Group 3, for U. S. Motor gasoline with one or two exceptions. The Producers & Refiners Corp. was selling its product out of Independence, Kans., at 7⅝ cents and there were two large refiners who were meeting this price, one of them selling some U. S. Motor gasoline at 7¼ cents. The gasoline price to marketers for resale was generally 6⅝ cents. Some sales were made at 6½ cents, while Tulsa brokers quite generally quoted 6⅝ cents with a purchase charge added of $5 a car. This price was quite freely quoted by brokers, both to the marketers and to larger jobbers. The contract price for U. S. Motor gasoline is now around 7⅜ cents and much of the competition is between refiners with a large string of contracts and others with only a limited number or no contracts, the latter giving their customers what they claim to be the equivalent of the contract price. There are frequent claims made, more often by the representatives of the larger refiners, that the low-priced gasoline is not of superior quality but deficient in some respect. This is doubtless true in some cases but some of the gasoline that is lowest in price is very good motor fuel and the tests compare favorably with those made of the gasoline distributed by some of the most reliable refiners through their own stations.

There has been a good deal of conversation during the past week regarding the popularity of Ethyl gasoline. This has been occasioned by the announcement of the Standard Oil Co. of Indiana of its "Better Ethyl Gasoline," which is really a 60-62 400 endpoint gasoline blended with the Ethyl fluid, and by several other large refiners that they were about to add Ethyl Gasoline to their regular line both for distribution through their own stations and for sale in tank car lots to their customers. The Pure Oil Co. has come out with an announcement of its new gasoline, "Purol-Pep," for which great antiknock value is claimed and on which they are asking a premium of 4 cents a gallon. Other large distributors are advertising and in other ways acquainting the motorists with the value which they claim for their higher grades of gasoline, the Sinclair Refining Co. pushing its "Aviation" gasoline and the Shell corporation its "400 Extra Dry." In fact, every one of the refiners, many marketers and even some distributors are holding up for the public choice some particular brand for which they claim great advantage will accrue to the motorist if he will but try it. Meanwhile the puzzled motorist is in the position of a buyer for a gas company who had a series of specifications which he embodied in his requests for prices for gas oil. Some of these desired specifications were diametrically opposite and could not be run in the same batch of oil. He was asked how he came to have such contradictory specifications and said that whenever he received an offer from some refiner to sell him gas oil in which they stressed some particular qualification of their oil he thought that that quality must be a desirable one and added it to his specifications. Some of the motorists have stated that they had tried to have the best they could buy and as a result of various purchases and try-outs they had become rather indifferent as to the brand of gasoline and would drive into any good-looking station and take whatever gasoline they had and found that so far as they were concerned, it made little difference. There are differences in engines and in the uses for which the gasoline is purchased. One owner of motor trucks claimed recently to the writer that he could get better operation and better mileage on a certain station's gasoline. That station uses a naphtha pepped up with natural for its truck customers. A large contracting concern which used many small gas engines also stated to the writer that it could not start its engines with some of the best known brands but found that certain other makes of gasoline were best suited for its purpose. Right now Ethyl Gasoline is on the crest of popularity. Some of the stories told of increased gallonage seem beyond belief.

With such a heavy demand for the antiknock gasoline, the sale of the formerly popular higher tests is growing less in this market at least. The demand is not good and as refiners are still running more or less of the gravities, there is almost constant pressure to sell. Purchases of the higher gravities for export gave a temporary feeling of strength to these products in this market. The prices were easy in a short time and the offerings in excess of the demand. Possibly some of the offers were for material that would not pass the full export requirements but it was desirable as motor fuel in this country. The story from the eastern sections of the territory where differential freights play such a prominent part in making the market, are of quotations below the possibility of selling at any profit out of the Mid-Continent Field. The Muskegon refiners are operating and in their territory have a great advantage. Their gasoline output is not large but it is sold in a territory to which deliveries can be made from many nearby refining centers and the result is that prices are uneven but all low from the basis of the Group 3 refiner. The natural gasoline market has been quiet here and some believe that the increase in the sale of Ethyl Gasolines has some importance in causing this condition. As a rule winter gasolines contain a higher percentage of the natural gasoline to give added starting ability under low temperature.

Kerosene Easy

The kerosene market is easy if not actually weak. Some refiners who have been claiming low stocks of kerosene have, in some way, come into possession of quantities which they are very willing to move at prices which they would not have considered when the demand was more active. Possibly some refiners were misled as to the future demand and continued to run kerosene after the supply was more ample. One of the local offices of a Group 3 refiner was offered an order for Michigan delivery at a price which he could not take. After thinking the situation over he called his party and said he would take the order at the price at which it was offered to his company. He then bought Pennsylvania kerosene and made a profit on the deal. One of the Northern Ohio refineries has also sold a good deal of kerosene for delivery in this territory, not alone into Michigan but in parts of Indiana and Illinois.

Distillates in Light Demand

Distillates have been in light demand and prices are some easier with a tendency to further ease as the weather continues mild. The offerings have been large and although many refiners are maintaining their price to the trade and for resale, others have been making concessions. Some of the material on which lower prices were named has not been of the very best grade. One lot which has been freely offered is in the sample, just a little strong in the odor and buyers are afraid to take it for domestic use as some of it might smell a little worse than the sample and if it did it would be sure to make trouble. One of the active local distributors says there is something at once penetrating and clinging about the odor that comes from these sour distillates such as are run from some West Texas crudes. As the weather continued warm and the middle of the month passed with no real buying by distributors refiners began to offer more freely and some excellent distillate has been put up to the buyers at prices that will permit them to make a profit, something well nigh impossible with a refinery price of 4 cents and a retail price of 7½ cents which is what the large distributors here are naming in lots of 350 gallons or over. Some offers were made of a good distillate as low as 3½ cents. Group 3 basis and the product could be readily bought at 3¾ cents. As the week passed the offerings increased until some of the best known fuel oil concerns stated they had never had distillate more freely offered to them and they believed the refiners were trying to move their October production in order to keep their stocks in shape for the beginning of November.

Gas Oils Easier

While gas oils were not quite as freely offered, there was an easier tone to the market and some declines in prices asked by refiners were made to secure orders. Reports made from the refining centers are that there are ample stocks of zero gas oil and that some refiners would be willing to consider offers at less than their recent quotations, but so far the buyers are only taking what they need. Distributors are well supplied in this market and have had cars on the tracks which, in a few instances they have sold rather than hold them and pay demurrage until such time as their own tanks had room sufficient to take in the cars. The October demand on the refineries has been disappointing. There have been liberal shipments on old orders but the new business has suffered from low consumption. Possibly the consumption has been as good as last year and somewhat better in parts owing to the increased number of burners in the homes, but it has been less than expected and provided for. But this is more or less an annual occurrence. There should be no real freezing weather at all until at the very close of the month and even then the cold does not last. One large refiner who has been out of the market for several weeks, came back this week with offers of U.G.I. gas oil at 3⅛ cents and zero gas oil at 3¼ cents but found these prices more than the trade was willing to pay. Some of the Shreveport refiners were apparently loaded with zero gas oil. Some zero gas oil bought earlier in the week by dealers at 3⅛ cents was unloaded at that price with no profit later in the week as their reports from the refineries indicated the present prices were easy as the offerings were increasing and refiners becoming more insistent on securing movement for their zero oil. The offers late in the week were very large indeed. They were plentiful at the beginning of the week but instead of decreasing they increased almost each day of last week. The straightrun U.G.I. gas oil on the other hand was rather scarce owing, it was stated, to large purchases by refiners, or one refiner for cracking fuel. This refiner has been short of gasoline and besides the output of the refinery has bought freely on the outside. Several times late last week the same price was named for U.G.I. and for zero gas oil by refinery representatives from the field. There is a fair demand from those gas companies who buy from month to month and from the occasional buyer but the majority have contracts or some in store.

Fuel Oils

The high gravity fuel oils have held their own but have not maintained the full advance in prices that were suggested early in the week when sales of the 28-30 zero, were quite frequently reported at $1.20, but later the same sellers found this price was too high and

(Continued on Page 131)

Better Feeling in the Eastern Market

Talk of Possibility of Quarter Cent Advance to 9 Cents Being Heard. Price Competition Eases Off Materially

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Oct. 21.—A better feeling in the refinery gasoline market, coupled with advances in lubricating oils and paraffin waxes, featured the East Coast refinery situation this week. Kerosene was also showing slightly more firmness, and the market undertone, on the whole, was better than has been the case in recent weeks.

"Price competition" in gasoline has evidently eased off materially, and principal refiners are experiencing little difficulty in maintaining their markets at posted prices. There is some talk in certain quarters of the trade regarding the possibility of a quarter cent advance to 9 cents for U. S. Motor gasoline at eastern refineries, and some interests are of the opinion that the market will close the year at levels above those now prevalent.

The strike of tank wagon truck drivers in New York City kept marketers in that city disturbed, but the strike lost much of its force during the latter part of the week, and the various companies now have the situation well in hand. Distribution was seriously interfered with at times during the strike, but the situation is now about back to normal.

Colder weather in the Eastern area has been accompanied by a marked increase in consumption of kerosene and furnace oils, and refiners have been quite busy throughout the week in keeping their distributors supplied with these fuels. While no price changes developed on these oils, the market undertone was quite steady.

Tank Car Gasoline

U. S. Motor gasoline has failed to run true to form at many times during the current year, and market conditions at the present indicate that further departure from custom is in sight. Ordinarily at this time of the year, the price trend for motor fuel is downward; refiners this week are talking strongly of an advance.

The spot market is quoted at 8¾ cents on the part of all of the leading refiners locally, with 9 cents quoted at South Atlantic terminals. At least one large seller locally is asking 8⅞ cents in the tank car market, however, and other interests are beginning to discuss the probability of a 9-cent market by the first of November.

With a number of interests apparently convinced that a 9-cent market is justified under present conditions, it remains for one of the prominent refiners in this area to take the lead in the advance. Current indications are that the trade will hold back until Standard Oil Co. of New Jersey gives some indication of stronger price views, the quotation of that company generally being regarded as "the market." Thus far, New Jersey has given no hint of any impending price advance, but usually well posted market observers are anticipating such action nevertheless.

Gasoline consumption, while showing the effects of the lateness of the season, has nevertheless been holding up to extremely gratifying levels during the current month, and refiners and marketers are optimistic regarding the outlook for continued heavy demand over the balance of 1929. Production in the East is by no means excessive, judged by current gasoline consumption levels, and with the movement of Californian and Venezuelan gasoline into East Coast markets being well regulated to the distributive requirements of its handlers, the gasoline market in the Atlantic States is in extremely stable position, everything considered.

Jobbers, who had been down to an exaggerated form of hand to mouth buying in many instances, have been showing more confidence in the market position during the current week, and tank car movement out of refinery terminals in the East has shown some improvement.

Tank Wagon Gasoline

Marketers in New York City were seriously affected by the strike of their truck men during the week, and volume fell off considerably. The strikers claim was that deliveries of the principal companies had been cut 50 per cent; the companies, on the other hand, contended that they were delivering about 80 per cent. A fair average, however, would be from 60 to 70 per cent.

Tank wagon business in other sections of the East was unaffected, however, and sales were reported to be exceptionally heavy for this season of the year. While cooler weather has been prevalent over the area, conditions have been favorable otherwise, and motoring has not been seriously curtailed in any of the principal marketing sections.

Price reductions in tank wagon gasoline in New Jersey territory during the preceding week have adjusted the markets to the lower gasoline basis at the refinery, and no price changes of major importance were made in East Coast markets during the current week.

With the refinery situation apparently a good deal stronger, tank wagon markets are taking on a better feeling, and the contemplated quarter-cent advance in the tank car market, reported in local refining circles, would go far toward stiffening the tank wagon price structure throughout the entire Eastern area.

Kerosene

Spirited demand for kerosene is reported in the tank car market, and leading refiners are holding the market firm at 7¾ cents per gallon for water white at refinery terminals. Jobbers throughout the eastern area have been filling their storage, and this has made for an active tank car movement at the refineries. Cool weather throughout the East, with pronounced cold at some points in the territory, have brought about a sharp increase in consumption during the week, and this fuel is evidently being largely used for home heating. Notwithstanding the growing use of domestic oil burners and electric heaters, there is evidently still an increasing use of kerosene in small home heaters.

Stocks of kerosene at East Coast refineries are by no means excessive, and while a few small sellers are going under the 7¾ cents price on water white, that quotation is being maintained by a number of the leading interests here, with some talk regarding the probability of an 8-cent market by the end of the year.

Tank Wagon Kerosene

Steady markets prevail with a material increase in sales totals noted for the week. Tank wagon delivery departments have been active, although the tank wagon movement in New York City was seriously hampered by the strike of drivers.

Reports from New England territory indicate a heavy gain in kerosene sales from tank wagon, and retail movement of this fuel through the filling stations operated by the various large oil companies is also on the increase.

Marketers look for a firm market on tank wagon kerosene over the balance of the year, and expect that sales totals for 1929 will show material gains over those for the previous year.

Lubs

Stronger prices at the refineries have been reflected in the local spot market, notwithstanding current quiet demand. Steam refined cylinder stocks, 600, are up a half cent to 30½ cents per gallon, with 630 showing a corresponding gain at 32½ cents and 650 also up a half cent at 36½ cents per gallon. Other grades of cylinder oils remain unchanged but a firmer undertone is evident.

Export inquiry for cylinder oils has eased off, and domestic demand is also rather light this week. Buyers are believed to be testing out the permanence of the present price schedule before operating further.

Red and pale oils are without price change this week, a moderate inquiry being reported.

Diesel Oil

Inquiry for 28-30 Diesel oil is well maintained this week, and the market continues steady and unchanged at $2 per barrel in bulk at East Coast refinery terminals. While a large part of current business is against standing contracts, this class of fuel oil is considerably more active in spot markets than is the case with bunker "C" and refiners are competing almost every day on sizable quantities of Diesel oil for spot delivery.

Steadily broadening consumption of Diesel oil by marine interests is noted, and it is evident that 1929 will hang up new sales records for this fuel with most of the principal refining interests in the Eastern area.

Low grade Diesel oil is coming into its own as the furnace oil season gets under way, and a good demand for this class of oil is reported from jobbers. A number of the older types of domestic oil burners, as well as some of the newer ones, call for this comparatively high grade furnace oil, and refiners are experiencing no difficulty in moving out production.

Gas Oil

A sharp jump in withdrawals by artificial gas companies in this area is reported, and a better feeling has developed in the market. Recycled 32-36 stock is currently quoted at 5¼ cents per gallon by the leading seller, with other interests still offering this stock at 5 cents, and down to 4⅞ cents in a few instances.

With furnace oil consumption steadily picking up, however, the market for lower grades of gas oil has shown corresponding improvement, and a firmer tone is manifest. Although cracking operations have eased off a little in the East, straightrun gas oil is still a rarity in the open market, refiners holding this material to run through their crackers. In fact the present market does not warrant the sale of straightrun gas oil, inasmuch as buyers in most instances would not be willing to demand the premium which refiners would demand.

Paraffin Wax

Firmness continued to characterize the paraffin wax market during the week, and there was a good inquiry prevalent. While business was in most instances confined to 50, 75 and 100-ton contracts, the aggregate volume of this business has gone to make up a substantial total. Pennsylvania refiners are showing definitely firmer views on both crude scale and fully refined waxes, and jobbers are finding considerable difficulty in locating wanted stocks at prices low enough to effect resales.

Crude scale, 122-124 a.m.p., is strong at 3½ cents per pound at Bayonne, and sellers are talking 3⅝ to 3¾ cents per pound for this grade in the near future. A moderate export inquiry for crude scale developed during the week.

In the fully refined market, 120-122 a.m.p. was quoted up an eighth at 4⅛ cents per pound, with 125-127 a.m.p. showing a corresponding increase to 4⅜ cents per pound. Other grades were firm and were moving in better volume. Export demand has picked up perceptibly this week, and domestic consumption is also apparently on the increase. Reports received by local operators indicate that weakness lately prevalent in some sections of the Southwest has been cleared out by the liquidation of burdensome surplus stocks which had been held over the market by some refiners.

Petrolatum

Conditions underwent no important modification in this branch of the market last week, and prices were without alteration.

Domestic pharmaceutical manufacturers were taking stocks of the white grades in substantial volume, and amber petrolatums were also moving out in a better way. Export movement was centered chiefly on the dark green and amber grades, with foreign operators showing more interest in offerings for delivery over November and December.

Fuel Oil

Reports of a possible accord between American companies operating in Venezuela and Royal Dutch-Shell, with the establishment of a curtailment policy in view, have likewise tended to improve the situation in bunker oil in the East.

Leading producers are quoting bunker "C" firm at $1.05 per barrel, at refineries, and there is a good movement into consuming channels. The demand from marine consumers is holding up well, and domestic consumption is broadening steadily as the colder weather arrives and furnace oil comes into more general use.

There are some interests in the trade in the East who are still "bullish" regarding the possibility of a higher market on bunker "C" before the end of the year, although majority sentiment at the moment appears to favor a continuance of the present steady undertone for the balance of 1929. Refinery stocks here are well in hand, and refiners anticipate no unsettling conditions during the remainder of the year.

Furnace Oil

Demand is widening steadily and early indications point to new high records in furnace oil consumption in the East. Leading sellers continue to maintain the market on a firm basis. A number of sellers are well booked up right on through the spring months of 1930 at current price levels.

The strike of tank wagon drivers and helpers this week tended to cut materially into deliveries of furnace oil in some sections of the city, and the delivery departments of the various oil companies are being worked to capacity in an effort to keep the movement as nearly 100 per cent as possible under the circumstances.

Export Markets

There are no inquiries for either kerosene or gasoline reported in the open market for shipment out of the Gulf this week. One report had it that a cargo of between 40,000 and 50,000 bbls. of prime white kerosene for shipment for the Far East was offering at the Gulf, but this could not be confirmed locally.

Gasoline trading, in so far as export movement is concerned, is being retarded by the maintenance of the relatively high prices quoted by the Export Association. Latterly, according to reports here, a good deal of the open market export business in motor fuel at the Gulf has been done through interests operating independently of the Association, and moving their gasolines into export channels through a rented terminal at New Orleans. As a result of this development,

(Continued on Page 131)

SATISFACTION

The Choice of

ERECO EQUIPMENT

Is Fully Demonstrated in

PLANT PERFORMANCE

LARGER NET YIELD

LOWER OPERATING COST

GREATER PROFITS

Old Plants May Be Converted Into Modern Plants at a Very Nominal Cost

ERECO
DUPLEX

ENGINEERING, RESEARCH & EQUIPMENT CO.

Consulting, Research, Design Manufacturing, Construction.
Absorption Plant And Refinery Equipment

LOS ANGELES
Roosevelt Bldg.
Phone Van Dyke 3342

TULSA
Exchange National
Bank Bldg.
Phone 4-3761

DALLAS
Athletic Club Bldg.
Phone 2-6841

Natural Gasoline Manufacture

Causes and Cures For Hot Bearings In Engine Trouble

By J. F. Morris
Columbian Gasoline Corp.*

Hot bearings are the source of much anxiety and annoyance to the engineer, besides interfering seriously with the proper performance of the engine.

The primary causes that lead to the heating of bearings may be enumerated as follows: Newly fitted brasses and journals; refitted brasses and journals; brasses set up too tightly; brasses too loose; wrapped and cracked brasses; cut brasses and journals; imperfectly fitted brasses; brasses pinching the journal at their edges; oil feed stopped entirely; not enough oil; dirty and gritty oils, or oils of bad quality; grit from any source in the bearings; journals too small, either in diameter or length; overloaded engine; engine out of alignment; external heat; brasses fitted too snugly between collars of journal; springing of bed plate; and springing or shifting of pedestal or pillow-black.

The bearing of an engine in which the shaft journals run should be as smooth and well aligned as possible. A hole with a bushing of suitable metal in it would form the best possible bearing for a shaft but since the bearings, however well designed and made, will in course of time wear somewhat, it becomes a necessity that there should be some means of adjusting the brasses, so as to prevent the shaft having a side movement when they are worn.

Adjustable Bearing

Some engineers consider it an error to make bearings adjustable. They say it gives an opportunity for careless men to do mischief through lack of judgment. It is a fact that one of the causes of hot bearings is setting them up too tightly. Some persons, as soon as they hear a pound or noise about an engine, think that some bearing is slack and tighten it up. There are numerous other causes of pounding in engines besides slack bearings and the engineer should be fully convinced that the pound is caused by slack brasses before setting them up. Bearings on an engine that is in line and in good order, if properly adjusted, will run smoothly and noiselessly for months without having to be touched with hammer or wrench and it should be the object of an engineer to get his engine into that condition as soon as possible and keep it so.

Bearings of large engines require constant watching. The engineer or oiler should know at all times the condition of every bearing and oil cup. This will require trips around the engine to examine the oil cups to ascertain if they are feeding and if they contain sufficient oil and to replenish the oil in the cups whenever necessary. While making his rounds, he should feel with the palm of his hand the brasses of those bearings that have shown a tendency to heat and those that are most liable to heat, particularly the crankpins.

Should any of the bearings show an inclination to heat, as indicated by its temperature rising above blood heat or above the temperature of the surrounding atmosphere, the oil feed should be increased. If the oil does not feed freely, run a wire through the oil tubes. If the bearings continue to get hotter, mix some flake graphite, flour sulphur or powdered soapstones with the oil and feed the mixture into the bearing through the oil holes, between the brasses or wherever else it can be forced in. A little aqua

(Continued on Page 138)

*Plant foremen's meeting.

OUTPUT OF OKLAHOMA CITY FIELD TO BE INCREASED WITH NEW PLANTS

With the starting up of the first plant of the Sinclair Oil & Gas Co. and the start of construction of a third plant for the Foster Petroleum Corp. and the Indian Territory Illuminating Oil Co., the Oklahoma City Pool of Oklahoma is increasing in importance in the natural gasoline industry.

The Sinclair plant, which is known as its No. 16, is located on the Stamper lease in SE NE Section 30-11-2. The plant was recently damaged in a gas fire just as it was completed and ready to start operating and it was not until this week that it was again in shape to operate. The plant is operating with well pressure and has a rated capacity of 15,000,000 cubic feet of gas daily. It is expected that the initial output of the plant will be around 10,000 gallons daily.

In addition to its own leases the Sinclair company is obtaining gas from the leases of the Prairie Oil & Gas Co. and the Mid-Kansas Oil & Gas Co. The company expects to enlarge its present plant to care for additional gas supplies.

The Foster Petroleum Corp. and the Indian Territory Illuminating Oil Co., which has operated the first plant of the field for approximately one year, is now building two additional plants, each of which in construction features and capacity will practically duplicate the first plant. The first plant now has sufficient oil absorber and distillation equipment to handle 40,000,000 cubic feet of gas daily operating at a well pressure of 60 pounds. In addition the plant has a compressor capacity of 12,000,000 feet daily. All the plants are designed to provide whatever flexibility that might be needed to take care of changing operating conditions. The compressors can either be used to handle recycle gas for gas lift or in a straight combination compressor and oil absorber operation.

The first plant is now producing around 20,000 gallons of natural gasoline daily and this will be increased to 25,000 to 30,000 gallons in a few days. This is known as the Bodine plant and is located in Section 24-11-3. One mile east of this plant in Section 19-11-2, the Button plant is under construction. Part of this plant will be ready to operate about the first of November and the remainder the latter part of that month.

Construction work has just started on a third plant known as the Vern plant. This is located 1½ miles north of the Bodine plant. This plant will not be completed until some time in December. It is expected that when the three plants are in operation the owners will have a natural gasoline output of from 75,000 to 90,000 gallons daily.

Coline Plant

In addition to the plants named, the Coline Gasoline Co., which is a subsidiary of the Coline Oil Co., is doubling the capacity of its plant. The additional capacity will be ready to operate this week. The company has been operating one unit for several months. This plant has a capacity of 10,000 gallons daily.

The fourth company in the field is the Shell Petroleum Corp. This company's plant is under construction on the Petty lease in Section 30-11-2. Absorption and distillation equipment is being installed to operate with well pressure. This plant which will be ready to operate in two weeks, will have a capacity of from 10,000 to 15,000 gallons daily.

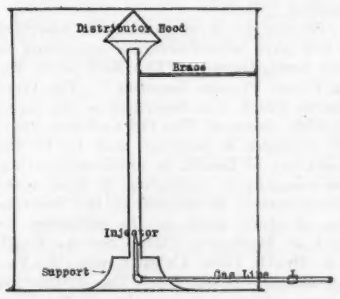
In addition to these four companies other companies are considering the installation of plant equipment. The recent shut-down of the field for a period of 30 days and the uncertainty that has existed as to the basis for future operation has retarded development in the natural gasoline end.

Most of the wells that have been completed have shown a large gas flow and there is gas available now that is not being processed by the operating plants. The gas, however, is low in gasoline content. Gas coming from one of the largest wells in the field has a gasoline content of approximately .25 gallon per 1,000 cubic feet. It is customary to operate the wells with a back pressure of at least 50 pounds. This pressure maintained on the separators tends to condense out a part of the gasoline fraction and accounts in part for the low gasoline content. With an unrestricted flow, the gas averages from three-fourths to 1 gallon per 1,000 cubic feet. As the field becomes older it is certain that the gasoline content of the gas will increase.

A PRACTICAL SUGGESTION

JET AGITATOR

Much difficulty is often experienced in thoroughly agitating heavy liquids and



unduly large costs are sometimes directly attributable to improper mixing. These problems are met at gasoline plants where lime, soda ash and other chemicals are used in water softening, in mixing chloride of lime or alkaline lithrage for gasoline treatment or in some of the newer chemical processes, for treating sour gas in the fields producing high sulphur oil and gas.

The method and arrangement shown here practically insures intimate mixing and is very cheaply installed. The size of the device is determined by the quantity of product to be mixed. The shape, size and nature, that is, enclosed or open to atmosphere is dependent upon its utility.

In the center of the tank is placed a pipe, it rests on a support about 8 inches from bottom of tank and is braced to the side of tank in one or more places. A jet or injector is placed in the bottom of the pipe pointing upward and is supplied with air or gas, the quantity and pressure being determined by the substance to be mixed and may be as low as 5 pounds or for violent agitation as high as 250 pounds pressure. The current set up carries substances in bottom of tank to the top of the pipe and throws it out against a distribution hood.

Practical suggestions by those connected with the construction and operation of natural gasoline plants are invited. Payment will be made as soon as suggestions are accepted. Address all communications to the Natural Gasoline Department, The Oil and Gas Journal, Tulsa.

COMPLETE PLANT IN EL MENE, VENEZUELA FIELD

HOUSTON, Tex., Oct. 19.—P. H. Heeney has been given considerable recognition because of a recent engineering undertaking for the British Controlled Oilfields, Ltd., at El Mene Field in the state of Falcon, Venezuela. At that field, in which there are 250 producing wells, he completely relaid all field lines, rearranged 250 tanks, made them gastight, installed a gasoline absorption plant and put into operation a repressuring system utilizing the dry gas from the absorption plant.

The installation of the gasoline plant has meant an important saving for the El Mene Field. The plant is producing approximately 18,000 gallons of gasoline daily, which formerly went to waste with the gas. From the gasoline plant the lean gas is piped back to the field, part is used for fuel and the remainder pumped back into the wells for repressuring.

PIPE LINE TRANSPORTATION

The practice of transporting natural gasoline by means of crude pipe lines has fallen off materially according to a report of the Bureau of Mines. The total quantity of natural gasoline turned into pipe lines either in the raw state or mixed with crude or unfinished oils in 1928 amounted to 106,616,000 gallons compared with 152,679,000 gallons in 1927. The chief reason for this decline was due to the fact that the amount of natural gasoline turned into pipe lines in California fell off 43 per cent from 1927.

MAY BUILD PLANT

BAKERSFIELD, Tex., Oct. 19.—Possibility of the location of a carbon black plant in the Taylor-Link oil field developed here during the week end when a group of men interested in the establishment of such a plant in the field visited the field. There is a large amount of gas in the field, some of it sweet and some of it sulphur.

The Continental Oil Co. has been testing the gas from the field and the Phillips Petroleum Co., which has a large natural gasoline plant in Crane County, has also been testing the gas.

NEW ELWOOD PLANTS

The Pacific Western Oil Co.'s new gasoline plant at Elwood, Calif., recently started operating, production being between 3,000 and 5,000 gallons daily. The gas run through the plant is coming from the company's Elwood well and the supply is expected to be increased shortly when another well will be completed. A third well is being started in this area.

EAST EARLSBORO PLANT

The Sinclair Oil & Gas Co. is building a combination gas lift and gasoline plant on the Nichols lease in the East Earlsboro Field of Oklahoma. The plant is located in the NW NE Section 19-9-6. The plant, which will have a capacity of 6,000,000 feet daily, will be ready to operate in 30 days.

Brief Items for Petroleum Refiners

Inland Refineries Need Lower Rates to Compete With Coast

Deepening the Missouri River to provide a 9-foot channel for water transportation of crude oil and refined products is needed if the Mid-Continent and middle western refiner is to retain his marketing territory in competition with products coming from California, Mexico and South American crude oils, according to A. H. Jones of Kansas City, a director of the Independent Oil & Gas Co. Mr. Jones was formerly active in the management of the Manhattan Oil Co., a refining and marketing organization which was taken over by the Independent company last year. He is still actively engaged in the oil business as a producer and through his connection with the Independent company.

Mr. Jones' statement regarding the necessity of making the Missouri River navigable for barges and other large boats was made at a hearing last week in Kansas City before Maj. Gordon R. Young, army engineer, who is gathering data for the Government regarding the Missouri River project.

Mr. Jones, in his testimony, pointed out that increasing quantities of gasoline and other petroleum products were being brought to the East Coast from California via Panama Canal. In addition, the production of South American crude oils is increasing and is brought to the East Coast and Gulf Coast either as crude oil or refined products. The market for these products has gradually expanded until now they are sold in competition with those coming from inland refineries.

The ability of California and other coastal refiners to do this, Mr. Jones contended, was largely due to the cheapness of water transportation. California gasoline, he pointed out, can be laid down at some middle western points cheaper than the rail rate from Kansas City refineries, although the distance is approximately three times as great.

Mr. Jones said that with a 9-foot channel in the Missouri River, South American crude oils could be brought to Kansas City for refining if considered desirable due to competitive conditions, and the refinery products could be transported over long distances to consuming points along the Mississippi River and its tributaries at low rates.

W. T. Akins, manager of the retail marketing of the Skelly Oil Co., also testified that water transportation would greatly aid in the transportation of refinery products.

DELAY HYDROGENATION PROCESS

NEW YORK, Oct. 21.—Due to the fact that minor changes have been made in the design of the first unit products from the new hydrogenation process of the Standard Oil Co. of New Jersey will not be available until next summer. The first unit is under construction at Bayway, N. J. It had been expected that the first unit which is under construction at Bayway would be completed about January 1.

The changes in design will also delay the completion of the units of the process under construction at the Baton Rouge, La., refinery of the Standard Oil Co. of Louisiana and the Baytown, Tex., refinery of the Humble Oil & Refining Co.

A NEW DISTRIBUTOR

CHICAGO, Oct. 18.—The Hi-Lo Oil Co. has been incorporated at Normal, Ill., to deal in petroleum products and accessories. The members of the company are Clarence H., Kuehnle and J. J. Roem.

SINCLAIR BUILDS FIRST OF NEW TYPE STATIONS

The Sinclair Consolidated Service Corp., a recently organized subsidiary of the Sinclair interests, has started construction on the first of a chain of large superservice stations of the "one-stop" type. The station is located at 60th and Cottage Grove in Chicago on a tract of land formerly a part of the Midway Gardens.

The site consists of approximately one acre of land and the entire tract will be used for station purposes. In addition to the usual gasoline, lubricating oil and grease service, the station will provide practically every accommodation required by automobile owners except garage service. While general garage service will not be available, brake and spring service and headlight adjustments will be offered. The station will include battery and tire service although this feature of the station will not be operated by the Sinclair corporation. The trade mark "Merry-Go-Round" has been adopted for the stations.

The new Sinclair corporation at the time it was organized took over Gillespie Auto Laundry stations at St. Louis and Atlanta, Ga. These stations are of the "one-stop" type. The corporation expects to build similar type stations in many of the other large cities. H. B. Bernard, vice president of the Sinclair Oil & Gas Co., is president and active head of the corporation.

HUMBLE'S NEW PLANT AT NECHES, TEX., OPERATING

HOUSTON, Tex., Oct. 21.—Humble Oil & Refining Co. the past week started running crude through its new refinery at Neches in the Boggy Creek Field of Anderson and Cherokee Counties, East Central Texas. The plant, just completed, consists of a pipe still and towers, and has a capacity of 5,000 bbls. daily although only approximately 3,000 bbls. is being run now.

The plant was built to top gasoline for that local territory's requirements and only enough crude will be run for that purpose. The residue charging stock will be run back to the pipe line from the field to Corsicana and thence through the company's main system to Webster, from where crude for the Baytown refinery is taken.

Boggy Creek at present has a daily production of only approximately 3,000 bbls.

MAY ABOLISH COMMERCIAL DISCOUNTS IN LOUISIANA

SHREVEPORT, La., Oct. 19.—Abolition of the commercial discount heretofore allowed consumers rated as entitled to concessions is forecast as the principal result of the conference this week in Alexandria of refinery sales managers, jobbers, wholesalers and filling station operators. The meeting was called by F. E. Wilkerson, Louisiana Oil Refining Corp., to present to them the American Petroleum Institute code of ethics. A second meeting was ordered for November 15, at which abolition of the commercial discount will be discussed. It is probable that it will be abolished in Louisiana and later in Mississippi and Arkansas.

Roy B. Jones, president of the Panhandle Oil Refining Co. of Wichita Falls, and chairman of the A.P.I. regional committee on marketing practices, attended the Alexandria conference and made detailed explanations and discussions of the code, item by item.

WILL ORGANIZE REFINING COMPANY AT MT. PLEASANT

MUSKEGON, Mich., Oct. 19.—Independent operators in the Mount Pleasant oil field of central Michigan were heard Friday by the state public utilities commission on their petition to organize an independent pipe line and refining company.

The new company will be known as the Peninsular Producing & Refining Co. and will control about 30 per cent of production of the Mount Pleasant Field now averaging about 8,000 bbls. a day.

Spokesmen for the independent operators told the commission that they believed consolidation would help them to obtain a better price for their product. Capitalization of the proposed company will be $100,000 with no stock for sale to the public. The various operators would control all of the stock and would engage in the pipe line and refinery business as a mutual proposition.

Virgil W. McClintic and W. W. Russell, of Mount Pleasant; W. A. Cassidy and H. C. Eastman of Midland, and Bliss Keeler of West Lansing are incorporators of the company. They are said to represent about 12 operators in the field.

The Pure Oil Co. has been the only pipe line operator and the first and largest operator in the Mount Pleasant Field. Of the 50 producing oil wells completed since the Pure company brought in the discovery well in the spring of 1928, the independents have drilled 22 and the Pure company has 28.

Production of the Pure company wells, however, is about 75 per cent of the total daily output of the field. About 1,000,000 bbls. of oil have been produced in the field and shipped by rail to Bay City and thence to refineries at various Great Lakes points.

The Pure company has been considering the erection of a pipe line from the field to Bay City, a distance of about 40 miles, and water shipment of crude oil from there to Great Lakes refineries. The other possible alternative is erection of a refinery in the field. Since June 3 the Pure Oil Co. has been paying a flat rate of $1.70 per barrel for all oil produced in the Mount Pleasant Field. This is the rate for 41 gravity oil on the Mid-Continent gravity basis.

PURE STARTS SALE OF GYRO PROCESS GASOLINE

CHICAGO, Oct. 19.—The Pure Oil Co. which over the past two years has been developing the Gyro vapor phase cracking process and now has units in operation at five of its refineries has inaugurated the sale of "Purol-Pep" gasoline, a premium antiknock product selling at 4 cents above the ordinary grade of gasoline.

The new grade of gasoline is described in full page advertisements appearing in local newspapers as "The New Gyro Vapor Phase Process Gasoline." The Gyro process which was described in the April 25, 1929, issue of The Oil and Gas Journal produces a gasoline said to be the equivalent of benzol in antiknock rating. The company is understood to have spent approximately $3,000,000 in the installation of Gyro units at its refineries located at Muskogee, Okla., Smiths Bluff, Tex., Heath, Ohio, Cabin Creek, W. Va., and Marcus Hook, Pa. The production is now sufficient to supply all the Pure Oil stations and dealers.

The Pure company for some time has been marketing "Purol Detonox" an antiknock motor fuel. The sale of this product will be continued at a premium of 2 cents instead of 3 cents as in the past. The company will also continue the sale of Purol gasoline as its ordinary grade of motor fuel.

Refinery Accounting Will Be Discussed At W.P.R.A. Session

Refinery accountants as well as those connected with the operation of plants are invited to attend the meeting of the Western Petroleum Refiners Association which will be held at the Mayo Hotel, Tulsa, October 28 and 29, under the auspices of the association's manufacturers' committee.

One of the most important discussions of the two day meeting will be that headed by F. R. Holsten, vice president in charge of the manufacturing department of the Barnsdall Refineries, Inc., on the subject of "Refinery Cost Accounting." C. E. Votrian, assistant treasurer of the Barnsdall Refineries, Inc., who has been connected with refinery accounting work for the Barnsdall plants, will present a paper on the subject.

More and more attention is being given to the subject of cost accounting in the operation of refineries. It is felt that in many cases due to obsolete or incomplete methods, operators do not have an accurate check on their plant costs. This is important in the marketing as well as the manufacturing division because refiners often sell their products at low prices under the mistaken impression that they are still making a profit in their plant operation.

In order that refinery operators might have a basis of comparison there has been strong agitation over the past year for the adoption of a uniform cost accounting system as one phase of this problem. This matter will be discussed at the Tulsa meeting.

In addition to cost accounting many other practical problems of the refinery operators will be discussed in prepared papers. Several of these papers deal with the latest developments in refinery practice. Following is the program:

Opening session—Monday, October 28, 9:30 a.m.

"Vacuum Distillation," Earl Petty, Smith Engineering Co.

"Pressure Distillate Stabilization," Col. George A. Burrell, Pittsburgh, Pa.

"Importance of Correct Temperatures in Tank Car Loading," H. T. Bennett, Mid-Continent Petroleum Corp.

Afternoon session—October 28, 1:30 o'clock.

The entire afternoon will be given over to a visit to the refineries of Mid-Continent Petroleum Corp., Producers & Refiners Corp. and The Texas Company, all located in West Tulsa.

Tuesday, October 29, 9:30 a.m.

"Vapor Phase Cracking," C. R. Wagner, Pure Oil Co.

"Refinery Cost Accounting," F. R. Holsten and C. E. Votrian, Barnsdall Refineries, Inc.

Afternoon session—October 29, 1:30 o'clock.

"Control of Refinery Operations With Instruments," F. M. Poole, Brown Instrument Co.

"Analysis of Natural and Refined Gases," Dr. W. J. Podbielniak, Tulsa.

"Determination of Gum in Gasoline," M. H. Nolan and Peter Vilkas, Producers & Refiners Corp.

GLOBE BUYS AGNI BENZOL CO.

CHICAGO, Oct. 19.—The Globe Oil & Refining Co., of Illinois, has purchased the distributing business of the Agnia Benzol Motor Fuel Co., of this city, distributors of petroleum products and a special benzol blend sold under their own brand which has been quite popular in this city. It is stated that three will be no change in the management of the Agni company.

ROCKY MOUNTAIN AREA

(Continued from Page 54)

in Musselshell County, looks like the opener for a new shallow pool. This well was pumped for two days before the machine was moved to a new location and it made 25 bbls. daily. It is expected the field will cover four sections.

On the International Boundary, about 5 miles west of Coutts, Canada, the Vanalta wildcat found a sand that made 72 bbls. in 24 hours. On the American side, the Monalta wildcat is just a mile from the strike and the drillers are now making hole as fast as possible.

In the Sunburst Field, the Clara Oil Co. has a small producer in the Ellis sand at 1,495 feet on Section 24-35-2. The well made 25 bbls. the first day after being put on the pump. In the same area the Tom Davis well on Section 10-35-1, found the Ellis sand dry but has plugged back and will make a commercial gasser from the Sunburst sand at 1,350 feet.

The Western Natural Gas Co. has a completion as a commercial gasser good for 1,000,000 feet on its No. 2 Frogge, Section 24-33-2, finding the gas flow in the Sunburst sand at 1,223 feet.

The Drumheller wildcat near Cut Bank, is making a pumping test of an oil showing found in the Sunburst sand. This well found the Ellis sand dry, but plugged back to the Stray and the Sunburst sands. In both these an oil showing was found and a flow of gas with the oil in the Sunburst sand. These showings are now being tested.

Rocky Mountain Fields

Daily average pipe line runs for week ending October 19:

WYOMING	
Salt Creek	32,310
Frannie	.....
Big Muddy	2,240
Oregon Basin	4,560
Byron	.....
Dutton	30
Elk Basin	740
Ferris	30
Grass Creek	2,140
Greybull	10
Hamilton	1,000
La Barge	2,230
Lance Creek	190
Lost Soldier	3,960
Osage	810
Poison Spider	840
Rock River	2,290
Rex Lake	90
Lander	530
Simpson Ridge	120
Teapot Dome	40
Mule Creek	610
Pilot Butte	180
Total	54,950
MONTANA	
Cat Creek	1,290
Kevin-Sunburst	6,780
Pondera	2,620
Lake Basin	50
Total	10,749
COLORADO	
Moffat	1,159
Fort Collins	1,853
Florence	734
Iles	1,172
Tow Creek	406
Boulder	25
Rangely	100
Total	5,449
NEW MEXICO	
Artesia	842
Cap Rock (Maljamar)	415
Hogback	390
Rattlesnake	1,750
Table Mesa	115
Total	3,512
Grand total	74,651

BETTER FEELING IN THE EASTERN MARKET

(Continued from Page 127)

there has been very little open market export gasoline business available for refiners working through the organized export group.

Better foreign inquiry for paraffin wax has been well maintained throughout the week, and the market has consequently stiffened. Export buying has broadened on both fully refined grades and crude scale, notably on the latter.

Cased gasoline and kerosene has been moving out in good volume at Atlantic Coast refinery terminals during the week, and the market has remained in steady position. While refiners are no longer quoting the cased market openly, naming prices only on direct inquiry from potential buyers, the market for gasoline and kerosene in cans has now shown the same irregularity which has characterized the bulk market during the past few months. South America and South Africa are reported heavy buyers of cased products in the current market, and there is also a good demand for these products for shipment to the Far East.

Petroleum Exports

The following table shows principal exports of refined petroleum products from New York during the past three weeks (all figures in gallons unless otherwise noted):

	Week Ended		
	Oct. 12	Oct. 4	Sept. 28
Gasoline	112,000	162,000	1,010,200
Naphtha	555,300	661,000	4,698,800
Kerosene	83,100	22,000	226,300
Fuel oil	6,000	15,000	33,400
Lubricating oil	1,608,400	1,448,000	1,853,900
Petroleum, refined	2,478,100	2,148,000	1,861,900
	Pounds		
Petrolatum		43,000	27,000
Paraffin wax	1,676,300	2,793,000	2,606,500
Refined		296,000	
Scale	213,000	294,000	332,300
Lubricating grease	1,450,800	1,791,000	1,145,900

Gasoline and naphtha export shipments have fallen off materially in the local market during the past fortnight, but reports this week indicate an improved demand, and refiners look for early improvement in the situation.

Continued quiet in lubricating oils for export is seen here, due both to the difficulty in locating stocks of cylinder oils in the Pennsylvania Field and the firmness at which prices for these oils have been holding.

Steady volume of business in lubricating greases is reported, with considerable business on sellers' books for shipment during the balance of the year.

Imports

Imports of crude and refined oils at the principal United States ports for the week ended October 12 totaled 1,771,000 bbls., a daily average of 253,000 bbls., compared with 2,529,000 bbls., a daily average of 361,285 bbls. for the previous week and a daily average of 296,321 bbls. for the four weeks ended October 12. Details follow:

	Bbls. of 42 Gls.
At Atlantic Coast Ports—	
Baltimore	182,000
Boston	132,000
New York	685,000
Philadelphia	306,000
Others	268,000
Total	1,573,000
Daily average	224,714
At Gulf Coast Ports—	
New Orleans & Baton Rouge	60,000
Port Arthur & Sabine District	138,000
Total	198,000
Daily average	28,286
At all United States Ports—	
Total	1,771,000
Daily average	253,000
Daily average four weeks	296,321

California Oil Receipts

Receipts of California crude and refined oils at Atlantic ports for the week ended October 12 totaled 441,000 bbls., a daily average of 63,000 bbls., compared with 371,000 bbls., a daily average of 53,000 bbls. for the week ended October 5 and a daily average of 70,250 bbls. for the four weeks ended October 12. Details follow:

	Bbls. of 42 Gls.
Baltimore	79,000
Boston	95,000
New York	244,000
Others	23,000
Total	441,000
Daily average	63,000
Daily average four weeks	70,250

There were no receipts of California oil at Gulf Coast ports during the week ended October 12.

All of the receipts at Atlantic Coast ports were of gasoline.

CHICAGO GASOLINE SITUATION UNCHANGED

(Continued from Page 126)

that material was available to the trade at 5 to 10 cents less than the high mark. There have been some additional offerings but the quantity has not been important. The distributors have stocks and are not in the market for more until they have sold some of what they have in storage, or coming on early orders.

Industrial Fuel

The industrial fuel oil demand is just about fair. There are many contracts on which deliveries are being made and occasionally the deliveries have been in excess of the buyer's requirements. Usually the purchases have been made at prices well below today's market. This at times has resulted in sales on account of the consumer. Right now there is a glut of heavy fuel oil in this market. Two of the local refineries are delivering and the sales of the larger plant, that of the Sinclair Refining Co., are for local consumption only. They have also a good deal of unfilled orders on their books and the Shell plant which is not taking on any new business in heavy fuels is still delivering on previous orders. When to this is added a little material from distributors or large consumers who have overbought for their needs, it makes a condition which would be much more serious were it not for the fact that this is the time of year when the consumption may be increased at almost any minute by colder weather. Unlike the smaller homes, the larger buildings which serve many families or the public such as stores, hotels, apartment houses and the like must supply some heat even when the outside temperature is but slightly under the 70-degree mark. These burners use heavier fuel and their requirements are important in this section. Outside of the Chicago district this condition does not prevail. Prices are generally firm at former levels. Dealers must pay from 65 to 70 cents for a good 18-22 fuel oil and 80 cents for a good 24-26 fuel oil with only a fair cold test. These and equally high prices for other grades prevail and are well maintained. The demand is very good, largely on contracts but the oil is being used. Some of the industrial plants have changed their schedule and are not taking as much oil while others are buying more than they expected. The outlook for the heavy industrial oils is more certain than for the furnace oils, being less influenced by weather conditions. There have been a great many complaints over deliveries of fuel oil and more rejections than usual. One large dealer stated that his concern had had more rejections, he believes, in the past month than in the five previous years. The grounds of complaint were quite generally, the inferior quality of the oil supplied but there were numerous cases which seemed attributable solely to carelessness on the part of the loading crews. This condition is not doing the fuel oil industry any good. It is the more evident that something is wrong when these complaints and rejections come on a rising market.

Bright Stocks Active

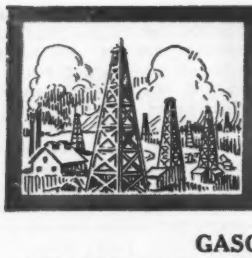
In lubricating oils the activity is in bright stocks. There are numerous inquiries and a demand in excess of the supply. The consumption of bright stocks has been estimated as more than five times that of last year. This is really yet little more than a guess based on sales by certain refineries but this consumption seems likely to continue. Refiners are adding to their equipment and some heavy motor oils are being refined by the vacuum process which answer every specification but do not contain any bright stocks as such. The other refinery stocks are unchanged and rather easy in tone. Motor oils are moving steadily but not in large volume.

Tank Wagon

In the tank wagon and station division there have been no changes in this territory. The suggestion is quite common that barring a change in the prices of Mid-Continent crude there will be no change in the tank wagon price at least until after Thanksgiving Day, so that according to this prediction, the present scale will endure for a month and nearly a half longer. Distributors of furnace oils are having a slack time. Local distributors are trying to advance their prices to the consumer one-half cent a gallon on all grades but as the large integrated companies are not advancing their prices the advance is not general and some doubt it will be maintained. The new prices asked are as follows: 38-40 distillate, 7½ cents in 350-gallon dumps; straw gas oil, 7¼ cents; dark gas oil, 7 cents; 28-32 fuel oil 6½ cents; 24-26 fuel oil, 5½ cents and 18-22 fuel oil, 5 cents. The Standard Oil Co. has recently changed the quantities on its fuel oil prices the new range being 350 gallons distillate or more, 7½ cents; 100 to 349 gallons, 8 cents; less than 100 gallons, 9 cents. Before the change in quantities the 7½-cent price applied to deliveries of 800 gallons or more at one time. Several companies charge according to the size of the tank and fill it at regular intervals instead of waiting to be notified to call. This permits the company to use its equipment more regularly and avoids the rush that comes with each cold spell. They state it is only fair to the consumer to charge him according to his tank rather than the quantity delivered.

SEPTEMBER COMPLETIONS IN PENNSYLVANIA AREAS

Middle Field	
Lot 2958, South Penn Oil	1
Water Co. lot, Hanson & Johnson	1
Rogers, F. H. Trax	1
Grandin, South Penn Oil 59	5
Lot 396, Crescent Oil 25	2
Lot 397, B. Hughes 8	3
Johnson, Clinger Bros. & Taggert 52	5
Johnson, Clinger Bros. & Taggers 53	4
Johnson, Johnson & Meyers Bros. 17	3
Jennings, Titusville Trust 38	2
Jennings, Titusville Trust 39	3
Hunter, Clinger O. & G. 37	1
Hunter, Clinger O. & G. 38	dry
Irvin, Crown Central Pet. 56	dry
Wells completed	14
Production	31
Dry	2
Venango-Clarion	
Scott, Altman, Berlin e. al. 2	1
Clark, R. & G. Foggan 34	4
Frye Bros., M. H. Snyder & Son 13	1
Frost, H. G. McComb Sons 19	2
Zimmerman, A. H. & W. T. Zimmerman 13	1
Stiritz, H. H. Lebrum 6	1
Bell, Sandy Creek Oil & Gas 1	1
Goettel, D. Goettel 36	1
Pierson, Midland Oil 3	1
Morris Goldstein, Anne Goldstein et al. 15	4
Bissell, Haun & Bonnett 8	1
Bissell, Haun & Bonnett 9	1
Maggio Oil, Maggio Oil 4	5
Ghost, Hovis, Lamberson Bk. 16	1
Rumsey, Rumsey & Lamberton 22	1
Simon, C. U. Simon 5	1
Berringer, H. C. Craig et al	1
Surrena, Surrena & Hamilton 27	1
Jones, J. S. Lester 27	1
McElphatrick, McElphatrick & Witherup, 27	1
McIntosh, Williams & McIntosh 5	1
Hines, A. H. and F. P. Sloan 17	1
Fowler, E. A. Buch 16	3
Fowler, E. A. Buch 17	1
Lamb, Hampton, Allen & Osborn 2	2
Schwab, J. E. Keverline est. 11	2
McLaughlin, Thomas McLaughlin 19	dry
Sporer, W. B. & F. E. Kapp 3	5
Bush, Fryburg Motor Co. 4	gas
Crawford & Gregory, Crawford & Gregory 345	6
Christy heirs, S. P. O. 17	dry
Car, Hufnagle & Co. 1	dry
Weaver, M. L. Weaver et al. 3	10
Mimm, Master & Hess 3	3
Exley, Master & Hess 3	1
Johnston, M. H. Johnson 18	1
Hook, Wood, Shorts et al 11	dry
Varner, Franklin Trust 3	1
Cohlheep, S. R. Lewis et al 4	dry
Thompson, Carroll Vasey et al 2	3
Shoup, W. F. Reighner 3	3
Edinger, Roy Edinger 5	2
Meherten et al, F. C. Deemer 13	15
Shirey, Klinger & Exley 3	1
Mong, Pryor, Kline et al 4	1
Wells completed	45
Production	96
Dry	5
Gas	1
Butler-Armstrong	
Cashdollar, Beals & Freeman 1	15
Showalter, Brown & Co. 1	1
Stevenson, Wachsmuth & Stevenson 1	3
Kamerer, S. H. Kamerer 5	2
Kaylor, Kaylor Farm Oil 1	1
McCalmont, Kaltenbach Bros. 1	2
Martin, Bowser & Co. 1	4
Wick estate, Chambers Oil	1
Campbell, M. W. Graham 20	2
McKinney, Edward McKinney 8	1
Gallagher, E. H. Pyle et al 1	dry
Barkley, H. R. Edeburn 9	1
Barkley, E. H. Edeburn 10	1
McGarvey heirs, Rush & Byers 1	1
Hindman, Southern Oil	press
Campbell, E. E. Campbell 3	1
Wells completed	14
Production	38
Dry	1
Pressure	1



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	Oct. 22		Oct. 15		Oct. 8	
50-52 450 endpoint	.07	.07½	.07	.07½	.07	.07½
56-58 450 endpoint	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
*58-60 437 endpoint (U. S. Motor)	.0773		.0775		.0773	
*60-62 437 endpoint	.07625		†.07½	.08	.08	
*60-62 400 endpoint	.08		.08		.08	
*64-66 375 endpoint	.08375		.0837		.0831	
68-70 360 endpoint	.07¾	.08¼	.07¾	.08¼	.07¾	.08¼
64-66 437 endpoint (blend)	.07¼		.07¼		.07¼	
*Weighted average prices October 21, 14 and 7 as reported by representative refiners. Sales to jobbers only. †No sales reported.						
NORTH TEXAS—						
56-58 450 endpoint	.06¾	.07	.06¾	.07	.06¾	.07¼
58-60 460 endpoint	.06⅝	.06¾	.06⅝	.06¾	.06⅝	.06¾
58-60 437 endpoint (U. S. Motor)	.06¾	.07¼	.06¾	.07¼	.06¾	.07¼
60-62 400 endpoint	.07⅛	.07¼	.07⅛	.07¼	.07	.07¼
64-66 390 endpoint	.07⅜	.07½	.07⅜	.07½	.07¼	.07½
64-66 375 endpoint	.07⅝	.07¾	.07⅝	.07¾	.07½	.07¾
68-70 360 endpoint	.07¾	.08	.07¾	.08	.08	.08¼
64-66 437 endpoint (blend)	.07¼	.07½	.07¼	.07½	.07¼	.07½
*NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.07½	.07⅝	.07¼	.07¾	.07½	.07¾
*ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.07½	.07⅝	.07¼	.07¾	.07½	.07¾
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
54-56 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
58-60 Gasoline	.08½	.09	.08½	.09	.08½	.09
60 Gasoline	.08¾	.09	.08¾	.09	.08¾	.09
62 Gasoline	.08⅞	.09	.08⅞	.09	.08⅞	.09
64 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
68-70 350 endpoint gasoline	.10¼	.10½	.10¼	.10½	.10¼	.10½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.09	.10	.09	.10	.09	.10
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.07	.07⅜	.07	.07¼	.07¼	
56-58 450 endpoint	.06¾	.07¼	.06¾	.07¼	.07	.07¼
58-60 437 endpoint (U. S. Motor)	.06¾	.07¾	.06⅞	.07¾	.07	.07¾
60-62 400 endpoint	.07¼	.07¾	.07⅜	.07¾	.07½	.07¾
64-66 375 endpoint	.07⅝	.08	.07⅝	.08	.07¾	.08⅛
68-70 360 endpoint	.08	.08¼	.08	.08¼	.08⅛	.08¼
64-66 437 endpoint (blend)	.07¼	.07⅜	.07¼	.07⅜	.07¼	.07⅜
GULF COAST (Export)—						
58-60 (U. S. Motor)	.08½		.08½		.08½	
60-62 400 endpoint	.09½		.09½		.09½	
61-63 390 endpoint	.09¾		.09¾		.09¾	
64-66 375 endpoint	.10		.10		.10	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

OKLAHOMA (Group 3)—	Oct. 22		Oct. 15		Oct. 8	
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¾	.07½	.06½	.06⅝	.06½	.06⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¾	.07⅛	.06½	.06⅝	.06½	.06⅝
Grade B, 76-83.9, 375 e.p., rec. 85%	.06¾		.06⅜	.06½	.06⅜	
Grade BB, 84-92, e.p., rec. 85%	.06⅝	.06¾	.06⅜	.06½	.06⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06¾	.06⅜	.06½	.06⅜	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¾	.07⅛	.06½	.06⅝	.06½	.06⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¾	.07⅛	.06½	.06⅝	.06½	.06⅝
Grade B, 76-83.9, 375 e.p., rec. 85%	.06⅝	.06¾	.06⅜	.06½	.06⅜	
Grade BB, 84-92, e.p., rec. 85%	.06⅝	.06¾	.06⅜	.06½	.06⅜	
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06⅝	.06⅜	.06½	.06⅜	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.07	.07¼	.06¾	.07	.06¾	.07
Grade BB, 84-92, 375 e.p., rec. 85%	.07		.06¾		.06¾	
Grade C, 80-90, 375 e.p., rec. 78%	.07		.06¾		.06¾	
CALIFORNIA—						
75-78 375-390 endpoint	.07¾	.08¼	.07¾	.08¼	.08¼	.08¾
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06¾		.06⅝		.06½	.06⅝
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06¾		.06⅝		.06½	.06⅝
Grade B, 76-83.9, 375 e.p., rec. 85%	.06¾		.06½		.06⅜	.06½
Grade BB, 84-92, 375 e.p., rec. 85%	.06⅝	.06¾	.06½		.06⅜	.06½
Grade C, 80-90, 375 e.p., rec. 78%	.06½	.06⅝	.06½		.06⅜	.06½

BURNING OIL

OKLAHOMA (Group 3)—	Oct. 22		Oct. 15		Oct. 8	
41-43 water white kerosene	.04¾	.05¼	.04¾	.05¼	.05¾	.05½
42-44 water white kerosene	.05¼	.05¾	.05¼.	.05¾	.05¼	.05¾
*NORTH LOUISIANA—						
41-43 water white kerosene	.05½		.05½		.05½	.05¾
NORTH TEXAS—						
41-43 water white kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
40-42 water white kerosene	.04⅜	.04⅝	.04⅜	.04⅝	.04⅜	.04⅝
*ARKANSAS—						
41-43 water white kerosene	.05½		.05½		.05½	.05¾
PENNSYLVANIA—						
43 Kerosene prime white	.06½	.06¾	.06¼	.06½	.06⅛	.06¼
45 Kerosene water white	.07	.07¼	.06½	.06¾	.06¼	.06½
46 Kerosene water white	.07	.07¼	.06¾	.07	.06½	.06¾
47 Kerosene water white	.07¼	.07½	.07	.07¼	.06¾	.07
300 Mineral Seal	.07¼	.07½	.06¾	.07	.06¾	.07
CALIFORNIA—						
38-40 water white Kero. (high-burning test)	.05	.05½	.05	.05½	.05	.05½
Engine distillate, 43-44, 445 endpoint	.07¾	.08¼	.07¾	.08¼	.08	.08¾
Engine distillate, 42-44, 480 endpoint	.07½	.08¼	.07½	.08¼	.07½	.08¼
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.04¾	.05	.04¾	.05¼	.04¾	.05¼
42-44 water white kerosene	.05⅛	.05⅜	.05¼	.05½	.05¼	.05½
GULF COAST (Export)—						
41-43 prime white	.07		.07		.07	
41-43 water white	.08		.08		.08	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

OKLAHOMA (Group 3)—	Oct. 22		Oct. 15		Oct. 8	
Below 18 Fuel Oil, per bbl.	.60	.65	.60	.62½	.55	.60
18-22 Fuel Oil, per bbl.	.65	.70	.62½	.67½	.60	.65
20-22 Fuel Oil, per bbl.	.67½	.72½	.65	.70	.62½	.65
22-26 Fuel Oil, per bbl.	.75	.80	.75	.80	.75	.80
24-26 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
26-30 Fuel Oil, per bbl.	.90	1.00	.90	1.00	.95	1.00
28-30 Fuel Oil, per bbl. (industrial)	1.10	1.15	1.05	1.15	1.05	1.10
32-36 Gas Oil (industrial)	.03	.03⅛	.03	.03⅛	.02¾	.03
32-36 Gas Oil (straw color)	.03⅛	.03¼	.03⅛	.03¼	.03	.03¼
36-38 Distillate	.04	.04⅛	.03⅞	.04	.03¾	.04
38-40 Straw Distillate	.04⅛	.04¼	.04	.04¼	.03⅞	.04⅛
NORTH TEXAS—						
Below 20 Fuel Oil	.60	.65	.60	.65	.60	.65
24-26 Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
32-36 Gas Oil (straw)	.02⅞	.03⅛	.02⅞	.03⅛	.02¾	.03
38-40 Straw Distillate	.04	.04⅛	.03⅞	.04⅛	.03¾	.04
*NORTH LOUISIANA—						
18-20 Fuel Oil, per bbl.	.80	.90	.80	.85	.80	.85
30-32 Gas Oil	.03½	.03¾	.03¼	.03½	.03¼	.03½
*ARKANSAS—						
33-36 Distillate	.03¾	.04	.03½	.03¾	.03½	.03¾
30-32 Gas Oil	.03½	.03¾	.03	.03¼	.03	.03¼
16-22 Refinery Fuel Oil, per bbl.	.80	.90	.70	.75	.70	.75
GULF COAST (South Texas)—						
Gas Oil	.04	.04¼	.04	.04¼	.04	.04¼
Bunker C Fuel (cargo lots), per bbl.	.75		.75		.75	
Bunker C Fuel (small lots)	1.00	1.05	1.00	1.05	1.00	1.05
PENNSYLVANIA—						
30-34 Fuel Oil	.04⅜	.04½	.04⅜	.04½	.04⅞	.04½
36-40 Fuel Oil	.04⅜	.04¾	.04⅜	.04¾	.04½	.04⅝
CALIFORNIA—,						
33-36 Distillate	.03½	.04	.03½	.04	.03½	.04
26-32 Distillate	.02	.02½	.02	.02½	.02½	.03
15-20 Fuel Oil, Bunker (at tide water)	.65	.85	.65	.85	.65	.85
15-20 Fuel Oil (cargo lots), per bbl.	.70	.85	.70	.85	.70	.85
27 plus Diesel, per bbl.	.90	1.05	.90	1.05	.90	1.05
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.77½	.82½	.80	.85	.77½	.82½
18-22 Fuel Oil, per bbl.	.67½	.72½	.65	.70	.65	.70
28-30 Fuel Oil, per bbl.	1.10	1.15	1.10	1.15	1.10	1.15
32-36 Gas Oil (zero)	.03⅛	.03¼	.03⅛	.03⅞	.02⅞	.03⅛
32-36 Gas Oil (industrial)	.03	.03⅛	.02⅞	.03⅛	.02¾	.03
36-38 Distillate	.03⅝	.03⅞	.03¾	.03⅞	.03¾	.04
38-40 Straw Distillate	.03⅞	.04	.04		.03⅞	.04⅛

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

OKLAHOMA (Group 3)—	Oct. 22		Oct. 15		Oct. 8	
100 vis., 2 color, 20-25 cold test	.06¾	.07	.06¾	.07	.06¾	.07
100 vis., 3 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
150 vis., 3 color, 20-25 cold test	.07¾	.08	.07¾	.08	.07¾	.08
150 vis., 4 color, 20-25 cold test	.07½	.07¾	.07½	.07¾	.07½	.07¾
180 vis., 3 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
180 vis., 5 color, 23-28 cold test	.08½	.08¾	.08½	.08¾	.08½	.08¾
200 vis., 3 color, 23-28 cold test	.09¾	.10	.09¾	.10	.09¾	.10
200 vis., 4 color, 23-28 cold test	.09¼	.09½	.09¼	.09½	.09¼	.09½
200 vis., 5 color, 23-28 cold test	.08¾	.09	.08¾	.09	.08¾	.09
240 vis., 3 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 4 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
240 vis., 5 color, 25-30 cold test	.11¾	.12	.11¾	.12	.11¾	.12
280 vis., 5 color, 25-30 cold test	.15¾	.16	.15¾	.16	.15¾	.16
280 vis., 4 color, 25-30 cold test	.14¾	.15	.14¾	.15	.14¾	.15
280 vis., 5 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
Cylinder Stocks:						
600, steam refined, light green	.10½	.12	.10½	.12	.10½	.12
600, steam refined, dark green	.09½	.11	.09½	.11	.09½	.11
190-200 vis., D color Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color Bright Stock	.37		.37		.37	
150-160 vis., E color Bright Stock	.33	.35	.33	.35	.33	.35
Waxes:						
124-126 White Crude Scale Wax	.03		.03	.03⅛	.02⅞	.03
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07½	.07¾	.07½	.07¾	.07½	.07¾
36 Miners' Neutral	.07¼	.07½	.07¼	.07½	.07¼	.07½
150, 3 color	.15½	.16	.15½	.16	.16½	.17
180, 3 color	.21½	.22	.21½	.22	.21½	.22
200, 3 color	.24½	.25	.24½	.25	.24½	.25
220, 3 color	.28½	.29	.28½	.29	.28½	.29
600, steam refined	.25½	.26	.25½	.26	.25½	.26
635, steam refined	.28	.28½	.28	.28½	.28	.28½
650, steam refined	.29½	.30	.29½	.30	.29½	.30
600, Pennsylvania Flash	.31½	.32	.31½	.32	.31½	.32
630, Pennsylvania Flash	.36	.36½	.36	.36½	.36	.36½
600, E filtered	.33	.33½	.33	.33½	.33	.33½
600, D filtered	.36½	.37	.36½	.37	.36½	.37
Pennsylvania Bright Stock	.51½	.52	.52	.52½	.52	.52½
*122-124 White Crude Scale Wax	.03¼	.03½	.03¼	.03½	.03	.03¼
*124-126 White Crude Scale Wax	.03¼	.03½	.03¼	.03½	.03⅛	.03⅜
*At New York.						
GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.05¾	.06½	.05¾	.06½	.05¾	.06½
No. 3 color, 200 vis., pale oil	.09	.09½	.09	.09½	.09	.09½
No. 3 color, 300 vis., pale oil	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
No. 3½ color, 500 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 4 color, 750 vis., pale oil	.12½	.13	.12½	.13	.12½	.13
No. 5 to 6 color, 200 vis., red oil	.08	.08½	.08	.08½	.08	.08½
No. 5 to 6 color, 300 vis., red oil	.08¾	.09¼	.08¾	.09¼	.08¾	.09¼
No. 5 to 6 color, 500 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 750 vis., red oil	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
No. 2½ color, 200 vis., pale filtered	.11	.12	.11	.12	.11	.12
No. 2½ color, 300 vis., pale filtered	.12	.13	.12	.13	.12	.13
No. 2½ color, 500 vis., pale filtered	.14½	.15	.14½	.15	.14½	.15
No. 2½-3 color, 750 vis., pale filtered	17	.19	.17	.19	.17	.19

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.14¼	.15½	.14¼	.15½	.14¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Oct. 22		Oct. 15		Oct. 8	
Gasoline, U. S. Motor, 58-60, 437	.08¾	.09	.08¾	.09	.08¾	.09
Kerosene, water white, 41-43	.07¾		.07¾		.07¾	
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.05		1.05		1.05	
†Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.05¼		.05¼		.05¼	
25 pale Paraffin Oil	.10½		.10½		.10½	
32 pale Paraffin Oil	.07¼		.07¼		.07¼	
285 red Paraffin Oil	.11½		.11½		.11½	
250 red Paraffin Oil	.11		.11		.11	
225 red Paraffin Oil	.09½		.09½		.09½	
200 red Paraffin Oil	.09		.09		.09	
Refined Wax:						
120-122 a.m.p., per lb.	.04⅛		.04		.04	
125-127 a.m.p., per lb.	.04⅜		.04¼		.04¼	
130-132 a.m.p., per lb.	.05½		.05½		.05½	
133-135 a.m.p., per lb.	.06⅛		.06⅛		.06⅛	
135-137 a.m.p., per lb.	.06¼		.06¼		.06¼	
Petrolatum in barrels, carload lots, per pound:						
Dark Green	.019		.019		.019	
Amber	.03⅝		.03⅝		.03⅝	
Extra Amber	.03⅞		.03⅞		.03⅞	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.07⅜		.07⅜		.07⅜	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra. †Lighterage 6.5 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Oct. 22		Oct. 15		Oct. 8	
Kerosene, prime white	.07¾		.07¾		.07¾	
Kerosene, water white	.09		.09		.09	
600, steam refined cylinder stocks, in bbls.	.30½		.30		.30	
635, steam refined	.32½		.32		.32	
650, steam refined	.36½		.36		.36	
600, Pennsylvania Flash	.43		.43		.43	
630, Pennsylvania Flash	.47		.47		.47	
600, Warren E	.42		.42		.42	
600, Oil City, E	.41		.41		.41	
Light 140-150 Bright Stocks	.60	.61	.60	.61	.60	.61
Dark 140-150 Bright Stocks	.58	.59	.58	.59	.58	.59

LOS ANGELES EXPORT PRICES

	Oct. 22		Oct. 15		Oct. 8	
Kerosene, water white	.04½	.05	.04½	.05	.04½	.05
U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.07	.06½	.07	.07	.07½

CRUDE OIL PRICES

OKAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Corsicana heavy (January 11)* ..... .80
Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

WEST TEXAS

Iatan*.....Same as North Texas
Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Glasscock—See gravity table
Chalk† ..... .65

*Includes Howard County and Westbrook Fields.
†Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (May 20, 1929) .....$ .85
Smackover, 24 gravity and above (May 20, 1929) 1.00
Cotton Valley, below 36 gravity (May 22)‡ ..... .85
Bellevue (May 29, 1929) 1.30
Urania (May 21, 1929) 1.10
East El Dorado (May 22, 1929) ..... .85
Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado, Magnolia Petroleum Co.

GULF COAST

Grade A (May 20)* $1.30
Grade B .....See gravity table
Jennings, La. (March 14)† 1.05
Saratoga, Batson, Dayton (March 14, 1927)‡ 1.20
Markham (March 14)§ 1.00
High Island (December 14)¶ 1.00

*Humble Oil & Refining Co., The Texas Company, Gulf Pipe Line Co., and Sun Pipe Line Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. §The Texas Company.
¶Posted by Gulf Pipe Line Co.

ROCKY MOUNTAIN STATES
Ohio Oil Co.-Midwest Refining Co.
(Effective May 21, 1929)

Rock Creek, Wyo. $1.40
Salt Creek.....See gravity table
Big Muddy 1.43
Grass Creek, heavy (July 27, 1928) ... .90
Grass Creek, light 1.65
Mule Creek 1.20
Elk Basin 1.65
Lance Creek 1.68
Poison Spider (March 14, 1927)..... 1.00
Notches (March 14, 1927) ..... .65
Rex Lake (February 22) 1.10
Osage 1.65
Lost Soldier (contract, May 22) 1.05
Hamilton Dame (March 14, 1927) ..... .85
Pedro 1.25
Greybull 1.65
Four Bear ..... .85
Cat Creek (Montana) (July 27, 1928).. 1.48
Sunburst (Montana) (May 23, 1929) ... 1.75
Torchlight 1.65
Hogback (New Mexico) 1.70

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTH-WESTERN TEXAS

Luling (May 2)* .....$ .90
Mirando (May 20, 1929)† ..... .90
Salt Flat (May 20, 1929)§ 1.25
Rockdale Minerva (April 15)
Below 28 gravity 1.25
28-38.9 gravity 1.27

(Continued on Page 134)

CRUDE OIL GRAVITY TABLE

Gravity	1 Okla., Kans., N. C. Texas	2 No. La. and Arkansas	3 Crane, Upton, Crockett, Winkler, Howard, Pecos, Texas crudes, and Lea, N. Mex.	4 Stephens, Ark.	5 Wheeler (Texas Panhandle)	6 Gray County (Texas Panhandle)	7 Carson and Hutchinson (Texas Panhandle)	8 Salt Creek, Wyo.	9 Grade B and Light Crude (G. Coast)	10 Somerset (South Central Texas)
24 and above	....	....	....	....	....	....	....	....	....	....
Below 24	....	....	....	....	....	....	....	....	....	....
Below 25	.85	....	.70	....	....	....	....	....	1.15	....
25 to 25.9	.90	....	.74	....	....	....	....	....	1.18	....
26 to 26.9	.95	....	.78	....	....	....	....	....	1.21	....
27 to 27.9	1.00	....	.82	....	....	....	....	....	1.24	....
Below 28	....	1.00	....	.90	.90	.90	.90	....	....	....
28 to 28.9	1.05	1.05	.86	.94	.90	.90	.90	....	1.27	....
29 to 29.9	1.10	1.10	.90	.98	.90	.95	.90	1.10	1.30	....
30 to 30.9	1.15	1.15	.94	1.02	.95	1.00	.90	1.15	1.33	....
31 to 31.9	1.20	1.20	.98	1.06	1.00	1.05	.90	1.20	1.36	....
32 to 32.9	1.25	1.25	1.02	1.10	1.05	1.10	.95	1.25	1.39	1.05
33 to 33.9	1.30	1.30	1.06	....	1.10	1.15	1.00	1.30	1.42	1.07
34 to 34.9	1.35	1.35	1.10	....	1.15	1.20	1.05	1.35	1.45	1.09
35 to 35.9	1.40	1.40	1.14	....	1.20	1.25	1.10	1.40	1.48	1.11
36 to 36.9	1.45	1.45	1.18	....	1.25	1.30	1.15	1.45	....	1.13
37 to 37.9	1.50	1.50	....	....	1.30	1.35	1.20	1.50	....	1.15
38 to 38.9	1.55	1.55	....	....	1.35	1.40	1.25	....	....	1.17
39 to 39.9	1.60	1.60	....	....	1.40	1.45	1.30	....	....	....
40 to 40.9	1.65	1.65	....	....	1.45	1.50	1.35	....	....	....
41 to 41.9	1.70	1.70	....	....	1.50	1.55	1.40	....	....	....
42 to 42.9	1.75	1.75	....	....	1.55	1.60	1.45	....	....	....
43 to 43.9	1.80	1.80	....	....	1.60	1.65	1.50	....	....	....
44 and above	1.85	1.85	....	....	1.65	1.70	1.55	....	....	....

Column 1, Note—Magnolia Petroleum Co. posted schedule May 20, 1929, making price below 26 gravity 70 cents per barrel, 26-26.9 gravity 75 cents, 27-27.9 gravity 85 cents, 28-28.9 gravity 90 cents, 29-29.9 gravity 95 cents, 30-30.9 gravity $1.05, and 31-31.9 gravity $1.15, with balance of the price schedule as shown above.

Oklahoma—Carter Oil Co., Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., The Texas Company, May 20.

North Central Texas—Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona and Moran, Prairie Oil & Gas Co., Sinclair Oil Refining Co., Humble Oil & Refining Co., The Texas Company and Gulf Refining Co., May 20.

Kansas—Prairie, Sinclair, The Texas Company and Carter, May 20.

Column 2—Arkansas and North Louisiana—(Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer and El Dorado only) May 22. Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co., Magnolia Petroleum Co., schedule applies to Pine Island, Haynesville, Bull Bayou, Louisiana and El Dorado, Ark., light crude.

Column 3—Humble Oil & Refining Co. and Magnolia Petroleum Co., May 20.

Column 4—Atlantic Oil Producing Co., Prairie Oil & Gas Co., Louisiana Oil Refining Corp., May 21, 1929.

Columns 5, 6 and 7—Humble Oil & Refining Co., Magnolia Petroleum Co., May 20, 1929.

Column 8—Midwest Refining Co., May 20, 1929. All crude over 37 gravity $1.50 per barrel.

Column 9—Humble Oil & Refining Co., May 20, 1929 (schedule ends 35 and above).

Column 10—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective October 21, 1929)

Gravity—	1 Salt Lake, Potrero, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Signal Hill, Huntington Beach, Athens, Inglewood, Rosecrans-Domingues, Watsonville	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Ave.*	10 Elwood Terrace	11 Long Beach, Seal Beach
14 to 14.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	....
15 to 15.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	....
16 to 16.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	....
17 to 17.9	.70	.70	.50	.70	....	.50	.50	.65	.40	....	....
18 to 18.9	.75	.75	.56	.70	....	.56	.56	.70	.40	....	....
19 to 19.9	.80	.80	.62	.75	....	.62	.62	.70	.40	....	.40
20 to 20.9	.85	.84	.68	.80	....	.68	.68	.70	.40	....	.40
21 to 21.9	.89	.88	.74	.85	.40	.74	.74	.86	.40	....	.40
22 to 22.9	.93	.91	.80	.90	.40	.80	.80	.87	.40	....	.40
23 to 23.9	.97	.94	.85	.95	.40	.85	.85	.90	.40	....	.40
24 to 24.9	1.01	.97	.90	.98	.40	.88	.88	.94	.40	....	.40
25 to 25.9	1.05	1.00	.95	1.01	.40	.91	.91	.98	.60	....	.60
26 to 26.9	1.09	1.04	1.00	1.04	.40	.94	.94	1.02	.60	....	.60
27 to 27.9	1.13	1.08	1.05	1.07	.40	.98	.97	....	.60	....	.60
28 to 28.9	1.17	1.12	1.10	1.10	.40	1.02	....	....	.60	....	.60
29 to 29.9	1.21	1.16	1.16	1.13	.60	1.06	....	....	.60	....	.60
30 to 30.9	1.25	1.20	1.22	1.16	.60	1.10	....	....	.60	....	.60
31 to 31.9	1.30	....	1.28	....	.60	1.14	....	....	.60	....	.60
32 to 32.9	1.35	....	1.34	....	.60	1.18	....	....	.60	....	.60
33 to 33.9	1.41	....	1.40	....	.60	1.22	....	....	.60	....	....
34 to 34.9	1.47	....	1.46	....	.60	1.26	....	....	.60	1.16	....
35 to 35.9	1.53	....	....	....	.60	1.30	....	....	.60	1.22	....
36 to 36.9	1.59	....	....	....	.60	....	....	....	.60	1.28	....
37 to 37.9	1.65	....	....	....	.60	....	....	....	.60	1.34	....
38 to 38.9	1.71	....	....	....	.60	....	....	....	.60	1.40	....
39 to 39.9	1.77	....	....	....	.60	....	....	....	.60	1.46	....
40 to 40.9	1.83	....	....	....	....	....	....	....	.60	1.52	....
41 to 41.9	1.89	....	....	....	....	....	....	....	.60	1.58	....
42 to 42.9	1.95	....	....	....	....	....	....	....	.60	1.64	....

*October 22.

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity 45 cents, 14 gravity and above 50 cents, effective October 2, 1929. On December 1, 1928, the Union Oil Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Mills and Coalinga crude as follows: 11 to 13.9 gravity at 45 cents, 14 gravity and above 50 cents.

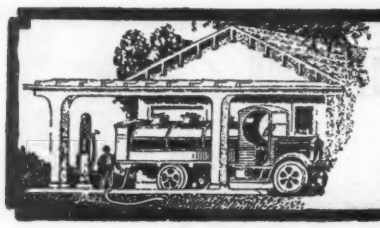
Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity; Dominguez and Athens-Rosecrans, 24 to 42.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 45 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Oct. 22

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago dist.†..	19.0	20.0	3.0	13.0
Decatur, Ill. ...	19.2	20.2	3.0	13.1
E. St. Louis ...	18.4	17.4	3.0	12.2
Joliet	19.4	20.4	3.0	13.2
Peoria	19.2	20.2	3.0	13.1
Quincy	19.2	20.2	3.0	12.9
Davenport, Ia...	19.5	20.5	3.0	13.3
Des Moines ...	19.5	20.5	3.0	13.3
Keokuk	19.5	20.5	3.0	13.3
Sioux City	19.1	20.1	3.0	12.9
Duluth, Minn...	20.5	21.5	3.0	13.9
Mankato	20.1	21.1	3.0	13.7
Minneapolis ...	20.2	21.2	3.0	13.9
LaCrosse, Wis.	19.2	20.2	2.0	14.0
Milwaukee	18.1	19.1	3.0	12.9
Madison	18.3	17.3	2.0	13.1
Detroit, Mich...	19.8	20.8	3.0	14.7
Grand Rapids..	19.7	20.7	3.0	14.6
Saginaw	19.9	20.9	3.0	14.8
Evansville, Ind.	20.0	21.0	4.0	14.0
Fort Wayne ...	20.4	21.4	4.0	14.4
Indianapolis ...	20.2	21.2	4.0	14.2
South Bend ...	20.4	21.4	4.0	14.4
Fargo, N. D. ..	21.9	22.9	3.0	15.9
Huron, S. D. ..	21.3	22.3	4.0	14.7
Sioux Falls	20.1	21.1	4.0	14.4
K. C., Mo.*	18.9	19.9	3.0	11.6
Springfield*	18.8	19.8	3.0	12.5
St. Louis*	17.9	18.9	2.5	12.3
St. Joseph	18.5	19.5	2.0	12.2
Wichita, Kans..	17.8	18.8	3.0	11.8
Bartlesville, Ok.	18.5	19.5	4.0	11.5

*State tax 2 cents; remainder city tax.

†Effective February 20, discounts on Q.D.A. in Chicago district 2 cents off service station price on purchases of 500 gallons or more per month and 4 cents on purchases of 1,000 gallons or more per month.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	15.7	12.9
V. M. & P. Naphtha	17.2	13.9
Cleaner's naphtha	17.0	14.9
Stanisol	18.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex. ...	17.0	21.0	4.0	13.0
Fort Worth ...	17.0	20.0	4.0	12.0
Houston	18.0	17.0	4.0	11.0
San Antonio ...	17.0	21.0	4.0	11.0
El Paso	15.0	18.0	4.0	16.0
Texarkana	17.0	19.0	4.0	12.0
Muskogee, Ok.*	16.0	19.0	4.0	13.0
Okla. City* ...	17.0	20.0	4.0	10.0
Tulsa*	15.0	19.0	4.0	10.0
Ft. Smith, Ark.	15.0	17.0	5.0	12.0
Little Rock ...	19.0	21 0	5.0	13 0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo....	18.0	21.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	22.5	25.5	4.0	19.0
Casper, Wyo. ..	20 0	23 0	4 0	14 0
Cheyenne	21.0	24 0	4 0	15 5
Butte, Mont. ..	25.5	28.5	5.0	20.0
Helena	25.5	28.5	5.0	20.0
Salt Lake, Utah	21.0	24.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	17.0
Boise, Idaho ..	23.5	26 5	4.0	19 0
Twin Falls	23.5	27.5	4.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa..	16.0	*22.0	...	13.0
Philadelphia ...	16.0	*22.0	...	13.0
Scranton	16.0	*22.0	...	13.0
Allentown	16.0	*22.0	...	13.0
Altoona	16.0	*22.0	...	13.0
Erie	13.0	*17.0	...	13.0
Dover, Del.	18.0	21.0	3.0	13.0
Wilmington ...	19.0	21.0	3.0	13.0
Springf'd, Mass.	18.0	20.0	2.0	15.0
Worcester	18.0	20.0	2.0	15.0
Boston	18.0	20.0	2.0	15.0
Providence, R.I.	18.0	20.0	2.0	13.0
Hartford, Conn.	18.0	20.0	2.0	14.0
New Haven ...	18.0	20.0	2.0	15.0

*Includes tax of 4.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y...	18.0	20.0	2.0	15.0
New York*	16.0	18.0	2.0	15.0
Buffalo	18.0	20.0	2.0	14.0
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.0	20.0	2.0	15.0
Boston, Mass...	18.0	20.0	2.0	15.0
Augusta, Me. ..	20.0	22.0	4.0	15.0
Manch't'r, N. H.	20.0	22.0	4.0	15.0
Burlington, Vt..	19.0	20.0	4.0	15.0

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga. ...	20.0	22.0	4.0	16.5
Augusta	20.0	22.0	4.0	15.5
Macon	23.0	25.0	4.0	16.5
Savannah	22.0	24.0	4.0	15.5
Birm'ham, Ala..	19.0	21.0	4.0	13.0
Mobile	20.0	22.0	4.0	15.0
Montgomery ...	21.0	23.0	4.0	16.5
Clarks'le, Miss..	18.0	20.0	5.0	12.5
Jackson	21.0	23.0	5.0	13.0
Natchez	20.5	20.5	5.0	14.0
Gulfport	22.5	24.5	5.0	14.0
Vicksburg	20.5	22.5	5.0	14.0
Jack'ville, Fla..	22.0	24.0	6.0	14.5
Miami	23.0	25.0	6.0	15.5
Pensacola	23.0	25.0	6.0	14.5
Tampa	22.0	24.0	5.0	14.5
Lexington, Ky..	20.0	22.0	5.0	15.5
Covington	21.0	22.0	5.0	15.5
Louisville	21.0	23.0	5.0	15.0
Ashland	18.0	19.0	5.0	15.5
Catlettsburg ...	18.0	19.0	5.0	15.5

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. Pensacola and Mobile taxes include 1-cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
San Francisco..	20.0	24.0	3.0	15.5
Los Angeles ..	19.5	23.5	3.0	15.5
Reno, Nev.	24.0	26.0	4.0	19.0
Portland, Ore. .	20.5	24.5	3.0	16.5
Seattle, Wash...	20.5	23.5	3.0	16.5
Tacoma	20.5	23.5	3.0	16.5
Spokane	24.5	27.5	3.0	20.5
Phoenix, Ariz...	18.0	22.0	4.0	20.5

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	20.25	22.25	4.0	13.25
McCook	21.75	23.75	4.0	14.75
Norfolk	20.75	23.75	4.0	13.75
N. Platte	21.75	23.75	4.0	14.50
Scottsbluff	21.75	23.75	4.0	14.25

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlantic City ..	16.0	18.0	2.0	13.0
Newark, N. J...	17.0	19.0	2.0	13.0
Annapolis, Md..	20.0	22.0	4.0	13.0
Baltimore	19.0	21.0	4.0	12.0
Cumberland ...	20.0	22.0	4.0	13.0
Washington ...	17.0	19.0	2.0	12.0
Danville, Va. ..	21.0	23.0	5.0	12.0
Norfolk	20.0	22.0	5.0	13.0
Petersburg	21.0	23.0	5.0	13.0
Roanoke	20.0	21.0	5.0	13.0
Richmond	20.0	22.0	5.0	13.0
Charles'n, W.Va.	19.0	21.0	4.0	13.0
Keyser	20.0	22.0	4.0	13.0
Parkersburg ...	19.0	21.0	4.0	12.0
Wheeling	20.0	22.0	4.0	13.0
Charlotte, N. C.	21.0	23.0	5.0	13.0
Hickory	21.0	23.0	5.0	13.0
Mt. Airy	21.0	23.0	5.0	13.0
Salisbury	21.0	20.0	5.0	13.0
Charleston, S.C.	21.0	23.0	6.0	13.0
Columbia	22.0	24.0	6.0	13.0

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points* ..	19.0	20.0	4.0	†13.0

*Dealers and commercial accounts 2 cents under tank wagon.

†Service station price 15 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.*	15.0	17.0	5.0	13.0
Baton Rouge ..	20.0	20.9	4.0	14.5
Alexandria	19.0	21.0	5.0	16.0
Lafayette†	20.0	22.0	5.0	14.0
Lake Charles†..	20.5	22.5	5.0	16.0
Shreveport	19.5	21.5	4.0	15.0
Knoxv'le, Tenn.	20.0	20.0	5.0	16.0
Memphis	20.0	22.0	5.0	12.5
Chattanooga ..	20.0	22.0	5.0	14.0
Nashville	19.0	19.0	5.0	16.0
Bristol	21.0	22.0	5.0	14.0
Lt. Rock, Ark..	21.0	23.0	5.0	13.0

*Tax of 5 cents includes city tax of 1 cent. Louisiana Kerosene prices include 1-cent state tax and 1-cent parish tax.

†Includes 1-cent parish tax.

CRUDE PRICE CHANGES

October 21—Standard Oil Co. of California, the Union Oil Co. and other major buyers in the California fields reduced Long Beach crude, Seal Beach crude and Santa Fe Springs crude. The new prices posted all oil produced in the Long Beach and Seal Beach Fields between 19 gravity and 24.9 gravity at 40 cents per barrel, and oil above 24.9 gravity at 60 cents per barrel. In the Santa Fe Springs Field all crude between 21 gravity and 28.9 gravity was posted at 40 cents, and above 28.9 gravity at 60 cents.

TANK WAGON PRICE CHANGES

October 17—Continental Oil Co. reduced the gasoline tank wagon and station prices 1 cent in Utah and southern Idaho.

October 19—Continental Oil Co. reduced the gasoline tank wagon and station price 1 cent in Wyoming. Magnolia Petrolum Co. reduced the gasoline tank wagon price 2 cents in Little Rock, Ark., to 21 cents.

NEW LINE TO VIKING FIELD

CHATHAM, Ontario, Oct. 19.—The first section of the duplicate pipe line of Northwestern Utilities, Ltd., between Edmonton and the Viking Field has been completed. The line consists of 20⅞ miles of 12¾-inch pipe parallel to the original line from Viking Field station to Holden. All pipe was treated with coating, and 7 miles running through alkali soil received special treatment. The line was constructed by W. A. Foreman & Co., contractors, under supervision of company officials. At Holden, automatic valves have been installed in each line, with by-passes just north of Bruce, to provide continuity of service should a break occur east of Holden. The entire line is now being pressure tested. The new line just laid cost approximately $300,000.

LINE TO WHEAT POOL

FORT WORTH, Tex., Oct. 21.—Lockhart & Co., discoverers and operators of the Wheat Pool, Loving County, have made a contract with the Burford Refining Co. of Pecos City, Tex., to use its loading rack from which to load Loving County crude to be piped from the Wheat Field through a 22-mile 4-inch line which Lockhart is to lay. This line is to be laid in order to save switching costs at Pecos. At present a 4-inch line from the field to a loading rack on the Santa Fe serves to handle the production, but the line to Pecos will dispense with switching from the Santa Fe to the Texas & Pacific Railroad and save considerable for the company, thereby paying for the line, and saving money in the long run.

CRUDE OIL PRICES

(Continued from Page 133)

39-39.9 gravity	1.29
40 and above*	1.31
Thrall‡	...
Callihan (May 15)	1.75
Lytton Springs (Lockhart)	See gravity table
Somerset	See gravity table

*Posted by Magnolia Petroleum Co.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.
‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
§Humble Oil & Refining Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective October 1, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.05
Bradford District Oil in National Transit Lines (Pennsylvania)	3.05
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.05
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.00
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	2.90
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.70
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s Line (May 22, 1929).	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (May 22, 1929).	1.90
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (May 22, 1929) ...	1.80
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29) ...	.60

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective May 21, 1929)

Lima	$1.80
Wooster	1.90
Illinois	1.75
Indiana	1.57
Princeton	1.75
Plymouth	1.38
Waterloo (November 17, 1926)	1.35
Western Kentucky	1.65
Dundee, Mich. (Sept. 17, 1929)¶	
.. Same as Mid-Continent gravity scale	
Upper and Lower Traverse sands, Mich¶	
.....Same as Mid-Continent gravity scale	
Midland, Mich. (June 3, 1929)*	1.70
Saginaw, Mich., Saginaw Sand (February 10)†	1.89
Saginaw, Mich., Berea Sand (February 10)†	1.79
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky, (March 15)‡	1.50
Oil in line in Stoll Oil Refining Co. In Oil City, Ky. (Oct. 7, 1929)§	1.76
Oil Springs (Canada)¶	2.27
Petrolia (Canada)¶	2.20

*Posted by Pure Oil Co.
†Posted by Sun Oil Co.
‡Posted by Paragon Development Co.
§Posted by Stoll Oil Refining Co.
¶Posted by Imperial Oil Co., Ltd.
‖Posted by Standard of Indiana for boat shipment.

MEXICAN CRUDE

Panuco*	$ .630

*Based on September transactions for deliveries during October and December. Price exclusive of taxes.

NATIONAL ADVERTISING

lets you share the advantages of **WIDE DISTRIBUTION**

The caveman worked alone . . .

it was not until human beings gathered into families, clans and tribes that the world began to go forward.

And, in these modern days, it is still a hard task for the man who works alone to build anything. If you carry nationally advertised gasoline and motor oil, you are not working alone—your burden is lighter—you belong to a great business group—you have the selling help of a widely known organization—the dealers in other states display the same signs you do and their customers touring the country are more likely to drive into your station because your signs give them confidence. National advertising links Sinclair dealers—helps one create business for the other—helps them all build good will with good oils and good service.

SINCLAIR REFINING COMPANY, INC., 45 Nassau Street, New York

Atlanta · Boston · Chicago · Houston · Kansas City

SINCLAIR

OPALINE

REG. U.S. PAT. OFF.

is **NATIONALLY ADVERTISED AS THE** *Extra Service* **MOTOR OIL**

Oils Sell Off in Stock Market Crash

Affected by Wave of Selling Which Carried Many Securities to New Lows for the Year, but Upturn Begins Promptly

Oils sold off along with other securities in the wave of selling which swept the stock market the last week, carrying many issues to new lows for the year. It was significant, however, that probably no other group of stocks resisted the tremendous selling pressure so well as the oils. The cut in crude announced by the Standard of California is believed to have had little or nothing to do with the moderate decline in the oil shares. Such recessions as occurred were attributed to the general condition of the market. Following the powerful bear attack on Monday of this week, the oils, in sympathy with the rest of the market, began to strengthen, with prospects of regaining their previous levels.

Independent Oil & Gas

Independent Oil & Gas Co. and subsidiaries, including Manhattan Oil Co., report for quarter ended September 30, 1929, net income of $1,462,447 after interest, taxes, depreciation and depletion, equivalent to $1.06 a share on 1,379,295 no-par shares of stock. This compares with $1,616,205 or $1.17 a share on 1,379,667 shares in preceding quarter and (including earnings of Manhattan Oil Co. for two months), $2,445,854 or $2.55 a share on 959,457 shares in September quarter of 1928.

Net income for first nine months of 1929 totaled $5,097,502 after above charges, equal to $3.69 a share on 1,379,295 shares, against (including Manhattan Oil Co. for two months) $2,138,973 or $2.23 a share on 959,457 shares in first nine months of preceding year.

E. H. Moore, president of the company, in a statement accompanying the financial report, reveals that Independent has 1,379,295 shares of stock outstanding. Funded debts of the company amount to $3,619,500, all in the form of convertible notes. All other indebtedness has been retired since the first of the year. Current assets amount to $12,320,000, of which $4,750,000 is represented by cash. Total current liabilities are $2,541,000, leaving a net working capital of $9,779,000.

"It will be observed that total net earnings for 1929 to date, amounting to more than $5,000,000 after deduction of all depreciation, depletion and federal tax charges, represent net earnings of $3.70 per share for the stock outstanding at the present time," Mr. Moore said in his statement.

"The company's net crude oil production for the nine months averages 30,764 bbls. per day, compared to 25,547 bbls. per day for the same period last year. It has increased its acreage reserve from 450,000 to 800,000 acres since the first of the year, and has extended its field of operations from Oklahoma, Kansas, Texas, Arkansas and New Mexico into the state of California and into the new coastal fields of South Texas. It is rapidly acquiring and will continue to acquire extensive potential reserves in California.

"Principal capital expenditures for the first nine months of 1929 have been $3,251,000 for leaseholds and royalties, $2,980,000 for the drilling of wells, $1,853,000 in refinery construction, $404,000 for gasoline plant construction, $404,000 for gas line construction, $65,000 for oil line construction, $702,000 for filling stations and sites, $900,000 for well equipment. This is a total of $10,559,000.

"The company is marketing about 50,000,000 feet of natural gas a day and is operating a number of natural gasoline plants in Oklahoma and Kansas. It has more than 450 bulk and service stations located in the distribution territory tributary to its two refineries at Kansas City and Okmulgee. Through these stations, it has marketed in excess of 57,000,000 gallons of petroleum products so far this year.

"It is the purpose of the company to continue to expand its own marketing outlets and dealer accounts to the point where its refinery capacity will be provided for by these markets."

Sun Oil

Sun Oil Co. declared a stock dividend of 9 per cent in common on the common stock, also regular quarterly dividend of 25 cents on common, both payable December 16 to stock of record November 25. The regular quarterly dividend of $1.50 on preferred was also declared, payable December 2 to stock of record November 11.

Sinclair Oil

Sinclair Consolidated Oil Corp. declared the regular quarterly dividend of $2 on the 8 per cent preferred, payable November 15 to stock of record November 1.

Lion Oil Refining

Lion Oil Refining Co. for nine months ended September 30, 1929, reports profit of $1,039,822 after charges, depreciation and depletion, but before federal taxes, against $178,547 in like period of 1928.

Atlantic Refining

Atlantic Refining Co. and subsidiaries for nine months ended September 30, 1929, report net profit of approximately $13,687,000 after depreciation, depletion, taxes, intangible development costs, etc., equivalent after six months' dividend requirements on 7 per cent preferred stock, now retired, to $5.48 a share (par $25) on average number of common shares outstanding during the period. Based on 2,670,551 shares outstanding on September 30, last, net profit is equal to $4.86 a share. This compares with $11,908,987 or $5.43 a share on average number of common shares in first nine months of 1928, calculated on a comparable basis and $4.07 a share on 2,670,551 common shares now outstanding.

Net profit for September quarter was $4,824,591 after above charges, equal to $1.81 a share on 2,670,551 shares of common stock. This compares with $4,969,809 or $1.73 a share in preceding quarter and $6,219,000 or $2.20 a share on present number of common shares in third quarter of previous year, after deducting preferred requirements for the quarter.

Venezuelan Petroleum

Venezuelan Petroleum Co., controlled by Sinclair Consolidated Oil Corp., declared the regular quarterly dividend of 5 cents, payable November 15 to stock of record October 31.

Cities Service

Cities Service Co. declared regular monthly dividends of 2½ cents and one-half of 1 per cent in stock on common, 50 cents on preferred and preference BB, and 5 cents on preference B, all payable December 1 to stock of record November 15.

Lone Star Gas

Lone Star Gas Corp. has purchased from Union Utilities, Inc., the common stocks of Texas Cities Gas Co., Council Bluffs Gas Co., Northwest Cities Gas Co., Coos Bay Gas Co., and Guthrie Gas Co., subject to the outstanding indebtedness of these companies.

American Natural Gas

Consolidated income account of American Natural Gas Corp. for eight months ended August 31, 1929, compares as follows:

	1929	1928
Gross*	$7,703,542	$7,052,619
Net aft. exp. & ord. tax	3,385,810	2,907,961

*Includes other income.

White Eagle Oil & Refining

The statement of income for quarter ended September 30, shows: Net sales, $7,425,396.06; profit from operations, $1,460,535.68; net income before deducting depreciation and depletion, $1,313,983.78; deduct: Depreciation and depletion, $361,538.50; net income for nine months, $1,636,350.61.

Home Oil

Shareholders of Home Oil Co. have authorized change in capital from 1,000,000 $1 shares to 3,000,000 no-par shares. A new company will be incorporated and existing shareholders will receive new stock share for share. There are 880,000 shares of the present stock outstanding.

British-American Oil

A. L. Ellsworth, president of British-American Oil Co., Ltd., issued an unequivocal denial of a rumor that an agreement has been reached regarding a stock split in British-American shares.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

May 11	59.75	Aug. 3	55.09
May 18	59.30	Aug. 10	54.15
May 25	57.73	Aug. 17	60.32
June 1	56.45	Aug. 24	60.61
June 8	58.37	Aug. 31	60.90
June 14	57.76	Sept. 7	59.16
June 21	56.76	Sept. 14	60.40
June 28	56.70	Sept. 21	57.93
July 5	56.52	Sept. 28	58.63
July 12	55.69	Oct. 5	57.00
July 19	56.83	Oct. 12	59.75
July 26	55.62	Oct. 19	58.70

MEXICAN OIL PRODUCTION LESS

Crude oil production in Mexico in week ended October 12 totaled 687,000 bbls., a daily average of 98,000 bbls., compared with 697,000 bbls., or 99,000 daily, in preceding week. Light oil averaged 46,000 bbls. daily, compared with 45,000 bbls. in week before, and heavy oil averaged 52,000 bbls., against 54,000.

INDEPENDENT OILS ON NEW YORK CURB

Compiled by Francis, Bro. & Co., Kennedy Building, Tulsa, Okla.

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low	Par value	Stocks	For week ended October 18 — Sales	Open	High	Low	Last	Change
$6.75	.45	2 7/16	.55	1½	.53	.72	7/16	$5	Amer. Con. Oilfields	2,400	¼	¼	¼	¼	...
..	..	7½	2¾	9½	3½	8⅝	3	N.P.	Amer. Maracaibo	3,900	..	3¼	3	3⅛	...
..	..	2¾	1	4½	2¼	5	1½	$10	Argo Oil	500	..	1¾	1½	1½	— ¼
85¼	60	40	20½	55	32¾	62	45	N.P.	British American	No sales.					
28⅜	9¼	28¼	15½	4½	3⅞	4⅞	2	25c	Carib. Syndicate (new)	1,200	2	2⅝	2	2	— ⅛
..	..	58¾	40¼	90⅞	54	68⅛	28⅛	N.P.	Cities Service	117,500	66½	68⅛	66½	67¾	+ 1⅜
..	..	95⅝	87	103½	94½	98¾	93½	N.P.	Cities Service, pfd.	1,600	94¼	94¾	94¼	94¾	+ ¼
3½	1¾	3⅞	1⅛	3¼	.76	2	⅝	1	Colombia Syndicate	600	..	¾	⅝	¾	...
..	..	9¾	6⅜	8⅞	6¼	11⅛	6⅞	10	Consolidated Royalty	No sales.					
16	10	14⅞	9½	17½	9½	11¾	7⅜	N.P.	Creole Syndicate	16,400	8⅞	9	8½	8⅞	+ ⅜
..	..	3	.50	3¼	.76	2½	⅞	N.P.	Crown Central	200	⅞	⅞	⅞	⅞	...
7⅞	6¾	12	4	33½	3¼	26	11⅛	N.P.	Darby Petroleum	1,300	11⅜	11⅞	11⅛	11⅝	— ⅞
..	..	2½	74	2¼	1	11	2	N.P.	Derby Oil & Ref.	1,600	7⅝	7⅞	7⅛	7½	— ½
..	..	16¾	4	21⅛	7½	44	20⅞	N.P.	Derby Oil & Ref., pfd.	No sales.					
98	92	118	86¼	165	101⅛	209	142⅛	$25	Gulf Oil Corp.	8,100	195	199½	186	186	— 8⅞
$3.00	.83	2½	.80	3⅜	1	2⅞	1⅛	5	Intercontinental Pet.	5,700	1½	1½	1¼	1¼	— ⅛
..	..	2¼	1⅛	3	1¼	3⅝	1¾	N.P.	Kirby Petroleum	700	2¼	2⅝	2¼	2½	— ¼
12¼	5¾	10⅞	5⅛	9⅜	5⅛	6⅛	2⅞	25	Leonard Oil & Dev.	400	3½	3½	3¼	3¼	— ¼
27	20	27½	20	43⅞	20	38⅞	23½	N.P.	Lion Oil & Ref. Co.	1,900	30½	31	28⅝	28⅝	— 2⅜
46	30	59⅝	37	69⅛	48½	50	32¼	N.P.	Lone Star Gas	1,400	62⅞	62⅞	55⅛	55⅜	— 7½
2⅞	1	2⅞	.80	1⅞	.50	1¼	⅜	1	Magdalena Syndicate	600	⅜	⅜	⅜	⅜	...
34	12¼	29	12	48½	32	38¼	20	N.P.	Margay Oil	No sales.					
8	5½	12⅛	5	8	2¾	6⅜	3	N.P.	Mexico-Ohio Oil	500	3	3	3	3	...
1¾	1⅛	1⅝	1	1⅜	⅞	1⅛	¼	$1	Mountain & Gulf	600	⅞	⅞	⅞	⅞	...
26	23	29¼	22¾	28⅞	19½	22⅞	10¼	10	Mountain Producers	1,500	10½	10¾	10¼	10¼	— ⅛
6⅝	5	5⅞	4⅝	5⅝	4¼	5	3	5	New Bradford	1,700	3⅜	3⅜	3	3	— ⅛
..	..	16	9¼	11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz.	No sales.					
..	..	12¾	9½	14¼	8½	18½	8¾	N.P.	North Central Texas	300	11½	11½	11¼	11¼	— ⅛
10⅛	5⅞	9⅜	3¼	6	2⅛	3½	⅜	N.P.	Pandem	1,300	¾	¾	⅜	⅜	— ⅜
12¼	11¾	12⅛	7	15⅝	8½	10¼	4¾	N.P.	Pantapec Oil	1,100	5¼	5¼	4¾	4¾	— ⅛
22¾	12	13½	5⅛	7¾	4⅞	7⅝	4⅜	N.P.	Pennok Oil	No sales.					
17	8½	24⅜	7	18	4⅞	16	10	25	Red Bank Oil	200	14	14½	14	14½	— 4½
30¼	12	15½	3½	12⅞	4⅛	8½	3	N.P.	Reiter-Foster	500	3⅛	3½	3	3½	...
7	4½	7	4½	12	4⅛	11	5	N.P.	Ryan Consolidated	200	6	6	5⅞	5⅞	— ⅛
10	7⅛	8	5¼	7¼	5½	5⅞	2	$10	Salt Creek Cons.	6,100	3	3	2½	2½	— ⅜
35	24⅛	35½	27¼	35	23⅛	25⅞	12½	10	Salt Creek Prod.	2,700	13	13	12½	12½	— ½
6⅞	1¼	7	1¼	3½	1	2½	1⅛	5	Savoy Oil	No sales.					
92	63½	92	63½	93¼	75	145	82	100	Transcontinental, pfd.	No sales.					
8	4½	7⅜	4¼	9⅛	4¾	6½	3	5	Venezuelan Petrol	3,100	3½	3¾	3⅜	3¾	+ ¼
8⅛	5½	8	4⅝	8¼	4⅞	9¼	4¼	$1	Woodley Petroleum	1,400	4½	5¼	4½	4⅝	+ ⅛
6½	6	6	1¾	8⅜	2⅛	2⅞	1½	25	Y. Oil & Gas (new)	200	1½	1½	1¼	1¼	— ¼

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of New York Stock Exchange, Kennedy Building, Tulsa, Okla

1926 High	1926 Low	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low		Listed capital	Par value	Div. rate	Last paid	Stocks—	For week ended October 19 Sales	Open	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	43⅞	27⅛	42⅝	22½	(sh)	922.075	N.P.	50cQ	July 31, 29	Amerada Corp.	10,200	27¾	27⅞	25	26⅞	— ¾
74	39⅞	82⅛	35⅛	85	51⅛	64¾	30	(sh)	209,180	N.P.	.....	.....	American Republics Corp.	3,500	39½	40¼	33½	37	—3⅝
80	44¾	50¼	35	53⅜	37½	47¼	40½		$57,260,300	$25	50cQ	Sept. 30, 29	Associated Oil	500	44⅝	45	44⅝	44⅝	...
128⅜	97	131⅜	104	66⅜	50	77⅞	53⅛		50,000,000	25	25cQ*	Sept. 16, 29	Atlantic Refining	60,500	58	60	55	55	—2¾
33½	23½	35½	20¾	53	20	49⅛	31½		45,235,650	25	50cQ	Aug. 6, 29	Barnsdall Corp.	23,700	33¾	35	32⅜	32⅜	—1⅝
..	..	..	..	..	..	47⅛	28½		4,634,532	N.P.	.....	.....	Continental Oil	114,000	35	37¼	34¼	36¼	+ 2
94½	50	96¾	65	94⅞	68	94¾	61		20,785,400	100	.....	.....	General Asphalt	7,100	85¼	85⅜	80⅝	80⅝	—4¾
72	50¼	175¾	60⅛	167	79	109	68½		25,000,000	100	.....	.....	Houston Oil	47,200	92½	95¾	85⅛	85⅛	—5
34	19⅝	32¾	17⅝	38⅜	21¾	39⅜	29⅛	(sh)	1,333,572	N.P.	50cQ	July 31, 29	Independent Oil & Gas ...	15,200	30⅜	31¼	29⅝	20	—1½
12¾	7½	12⅛	7⅝	39⅝	9	53	29		$12,307,370	$10	.....	May 31, 24	Indian Refining	36,400	44	44½	38¾	39	—4
25⅞	16½	37¾	20½	39⅛	27⅜	38⅜	26	(sh)	3.992.122	N.P.	.....	May 1, 27	Lago Oil & Transport ...	1,500	32¼	32½	30½	30⅛	—2
19⅞	12	18⅛	10	19¾	9⅜	18	10⅛	(sh)	1,190,063	N.P.	.....	.....	Louisiana Oil Refining ..	13,000	10⅞	11⅝	10¾	11	+ ¼
28	16½	22¾	12	25½	12½	18½	11⅝	(sh)	330.000	N.P.	.....	.....	Maracaibo Oil	1,800	14¾	15	14	14	— ⅞
13¾	6	9¼	3	73	4⅝	69⅜	21¾	(sh)	1,276.873	N.P.	.....	Dec. 15, 20	Mexican Seaboard	27,800	31	31⅝	23	23	—7⅛
37	20½	39⅜	25½	44½	25⅛	39⅞	30½	(sh)	1,857,912	N.P.	50cQ	Aug. 15, 29	Mid-Continent Petroleum	20,100	34	34¼	32	33	—1
2½	½	3¾	1⅝	7⅜	2⅜	5⅛	1¾		24,298 850	10	.....	July 1, 23	Middle States	4,100	2	2	1⅞	2	+ ⅛
76½	56⅛	65⅞	40⅛	54⅞	38¼	69	40¼		49,997,750	50	.....	Oct. 20, 27	Pan American P. & T. ...	4,200	65	65¾	64	64	— ⅛
78⅜	56⅞	66⅜	40¼	58⅞	37¾	69	40¼		118,034,739	50	.....	Nov. 15, 24	Pan American P. & T. B.	98,600	65½	66¾	63⅛	63¾	— ⅜
46	30	37⅞	16¾	28⅜	15½	18½	13⅝	(sh)	400,000	N.P.	.....	Jan. 30, 27	Pan American Western B	No sales.					
32	4½	18⅞	8	21¾	11½	15¼	5¾	(sh)	199 370	N.P.	.....	.....	Panhandle P. & R.	800	6½	7⅜	6⅜	7⅜	+ ¾
99⅜	51	83	54	108	70	76	47½		$2,635,300	$100	.....	July 2, 23	Panhandle P. & R. pfd. ..	200	53	53	52	53	+ 3
57⅝	40	60¼	36¼	53⅞	35¼	47	35	(sh)	2.406,796	N.P.	37½cQ	Oct. 2, 29	Phillips Petroleum	40,100	42⅛	42½	38½	39⅞	—2
..	..	1⅛	½	5¼	½	3⅜	1½		$29.622.925	$25	.....	.....	Pierce Oil Corp.	2,000	1¾	1⅞	1¾	1¾	...
7	2¼	5½	2½	7	3½	5⅞	3⅞	(sh)	2,500,000	N.P.	.	.....	Pierce Petroleum	8,200	4	4⅛	3⅞	3⅞	— ¼
60¼	48	55½	45⅝	68	46	65⅝	50⅜		60,000,000	25	50cQ*	Sept. 30, 29	Prairie Oil & Gas	7,400	55	55⅝	54¼	54¼	— ¾
137½	122½	190	130¾	280	172	65	53⅝		$101,250,000	$25	75cQ*	Sept. 30, 29	Prairie Pipe	.....	..	..	..	..	...
20¾	11	33⅞	16¾	29⅞	16	25⅞	11½		$37,450,850	$50	.....	Sept. 15, 23	Producers & Refiners	3,100	13⅞	13⅞	12	12¼	— ¼
41¾	30¾	50	36⅞	49⅝	41	46¾	34		2,845.350	50	37½cQ	May 1, 25	Producers & Refiners pfd.	15,000	36¼	36¼	34	35	—2
81	25¼	33½	25	31⅝	19	30¾	23¼		75.959.350	25	.....	Sept. 2, 29	Pure Oil Co.	203,500	28⅜	30¼	27⅞	28⅛	+ ¼
27½	22	28⅝	25⅜	56	23	49⅝	37		1,917,181	20	50cQ*	Aug. 15, 28	Richfield Oil	8,400	39	39	37½	37½	—1
57⅜	47⅜	54½	44¼	64	44⅝	64	49⅞	(sh)	611,303	13.40	.....	Aug. 13, 29	Royal Dutch, N. Y., sh. ..	200	61	69¼	68½	69¼	+ 4¼
48⅝	40½	47⅞	41⅜	57½	40⅝	55¾	43⅜	(sh)	£30,000,000	£1	$1.45	July 23, 29	Shell Transport & T.	No sales.					
31	24	31¾	24⅝	39¼	23¼	31¾	25	(sh)	20,000,000	N.P.	35cQ	Sept. 30, 29	Shell Union Oil	31,800	27½	28	26½	26½	—1
25⅝	15⅛	25⅜	14¼	27¼	18⅛	40⅛	18⅛		$8,357,000	$10	40cQ	Sept. 14, 29	Simms Petroleum	7,000	33⅛	34	30⅛	30⅛	—1⅞
24⅞	15¾	22⅜	15	46¾	17⅜	45	31½	(sh)	4,501,915	N.P.	50cQ*	Oct. 15, 29	Sinclair Consolidated	83,900	35⅛	35¾	32⅛	33⅛	—2⅛
99½	90	104½	97	110	102½	111	107		$16,604,600	$100	$2Q	Aug. 15, 29	Sinclair Consolidated pfd.	300	109¼	109¼	109	109¼	+ ¼
87⅛	26⅝	37⅜	24⅛	42⅝	25	46½	32⅞		27,396,590	25	50cQ	Sept. 16, 29	Skelly Oil Co.	32,000	41	41¾	37	38½	—2½
63⅝	51½	60¾	50⅜	80	53	81⅞	64	(sh)	12.594.098	N.P.	65½cQ	Sept. 16, 29	Standard Oil of Cal.	38,900	75½	76¼	72⅝	72⅝	—2⅜
46⅜	37½	41⅜	35⅛	59⅜	37¾	83	48		$611.120.700	$25	25cQ*	Sept. 16, 29	Standard Oil of N. J. ..	849,400	79⅜	82⅝	75¾	77	—2⅜
47¼	30⅜	34⅛	29¾	44¼	28¾	48⅛	37⅝		427,973,275	25	40cQ	Sept. 16, 29	Standard Oil of N. Y. ...	101,000	44⅝	44⅞	42½	42½	—1½
41¾	30⅛	34⅞	30	77	31½	84¾	57	(sh)	1,206.073	N.P.	25cQ	Sept. 16, 29	Sun Oil	11,600	80¼	86⅜	80⅛	81⅞	+ 1⅞
..	..	..	..	..	..	24	16½		2,400.000	N.P.	.....	Dec. 20, 20	Superior Oil Corp.	10,100	19⅞	20	17½	18	—2
58	48	58	45	74¾	50	71⅞	57¼		$211,076,650	$25	75cQ	Oct. 1, 29	The Texas Corporation ..	78,500	65⅛	65⅜	62	62⅛	—2¾
19½	12	18⅞	12	26⅝	12⅛	23⅞	14		8,380,340	10	.....	Jan. 3, 28	Texas Pacific Coal & Oil .	21,800	16⅛	17⅞	15⅛	15¼	— ⅜
39¼	27	29⅛	19	41½	19⅝	40	27⅛	(sh)	2.168.410	N.P.	20cQ	June 29, 29	Tide Water Oil Co.	1,100	33¾	33¾	32⅜	32½	+ 1¼
103	87¼	90⅛	85	100⅛	86	90⅞	84		$20,705,200	$100	65½cQ	Aug. 15, 29	Tide Wat. O. Co. 5% pfd.	500	93	93	91⅞	93	...
27	20⅞	19⅛	15¾	25	14¾	23½	17	(sh)	4,796,158	N.P.	.....	Aug. 1, 27	Tide Water Associated ...	25,900	18½	18⅞	17¼	17¼	—1
5½	3	10⅜	3¾	14¾	7¼	15¼	9	(sh)	6,425,548	$100	.....	.....	Transcontinental Oil	98,600	13⅜	13¾	12	12⅛	—1¼
58⅜	37¼	56½	39⅝	58	42⅜	57	45½		$94,798,100	$25	50cQ	Aug. 10, 29	Union Oil of California ..	24,000	54¼	54¾	51¼	51¼	—1⅜
120⅜	84¼	127½	94	128⅛	110	163¾	121⅞		31,061.200	100	$1.25Q	Sept. 3, 29	Union Tank Car Co.	300	152	152	150	150	—2½
30⅛	23½	34½	24½	44⅞	26	42⅞	27	(sh)	356.000	N.P.	50cQ	July 2, 29	Warner Quinlan	8,900	29⅜	30¼	28⅛	28¼	—1⅛
29¾	25⅛	27½	20	38	20⅛	38	30¼	(sh)	490.000	N.P.	50cQ	July 20, 29	White Eagle Oil & Refg. .	3,200	34¼	34½	32¾	32¾	— ¾
..	..	..	..	..	..	29¾	16		.....	....	.....	.....	Wilcox Oil & Gas	14,400	17¾	23	17¼	20½	+ 3¼

*Also extras. †Ex-dividend.

STANDARD OIL STOCKS ON NEW YORK CURB

														For week ended October 19 Sales	Open	High	Low	Last	Change
21	16	21⅝	17⅞	22⅜	14⅞	18	14¼		£4,126,460	£1	.....	June 6, 28	Anglo-American Oil (vtg.)	3,100	15	16⅝	15	15½	+ ½
..	..	3¾	¾	5	1¼	2½	1	(sh)	500,000	N.P.	.....	.....	Atlantic Lobos	200	1	1	1	1	— ¾
76	65	69	50	56½	44½	46½	26		$1,000,000	25	$1S.A.*	Apr. 15, 29	Borne Scrymser	600	28	29¾	28	28	+ 1½
59½	42	60	45	76	53	74¼	58⅜		10,000,000	50	$1Q*	June 15, 29	Buckeye Pipe Line	100	67½	67½	67½	67½	— ⅜
82½	65	126	76½	161	117	210	140⅛		3,000,000	25	$1Q*	Sept. 30, 29	Chesebrough Mfg.	200	183	183	182½	182½	—1
25⅞	17½	22⅝	16¼	23	16	29	16⅞		36,057,840	10	.....	Dec. 15, 27	Continental Oil	3,300	20¾	22¼	19⅜	22	+ 1⅜
137	102	137	89	114	67	95	60		1,500,000	50	$1Q*	Sept. 16, 29	Cumberland Pipe Line ...	No sales.					
63¾	43	68½	47	88	64⅛	70⅛	55½		5,000,000	100	$1Q	Aug. 1, 29	Eureka Pipe Line	No sales.					
32½	9⅞	13½	3½	13	4¼	6⅝	5		16,000,000	100	.....	June 30, 25	Galena Signal Oil	No sales.					
68½	52	68½	54	114¾	59¼	128	89⅝		73,117,577	25	30cQ*	July 1, 29	Humble Oil & Refining ...	4,600	120½	120⅜	117½	118	—1
144½	125½	182	123¾	290½	176½	340½	285		20,000	100	10%S.A.	June 15, 29	Illinois Pipe Line	500	305	308	303	303	+ 2¾
.	..	64¾	37¾	104	56¾	41	26⅝	(sh)	6,458,267	N.P.	12½c	Sept. 2, 29	Imperial of Canada	7,300	36¾	37	35⅞	36	— ⅜
72½	58	94½	61	91⅞	74⅜	33¾	26¾		$5,000,000	$50	.....	Feb. 15, 29	Indiana Pipe Line (new).	700	33	34	33	34	+ 1⅝
35½	28¾	39	28¼	55	35	30⅜	22½	(sh)	14.324,088	N.P.	12½c	Sept. 25, 29	International Pet. (new) .	22,800	28⅞	29	27⅛	28½	+ ⅛
20¾	12½	24	13½	32⅜	19⅜	25⅞	19		$6,363,350	12.50	25c*	Sept. 16, 29	National Transit Co.	2,500	20½	20½	19	19⅝	+ 1⅝
51½	27¼	44½	31¼	75	38½	16	10		5,000,000	100	.....	July 15, 26	New York Transit	300	16	16	15⅛	15⅛	— ⅛
40½	64	100	70	69	56½	63	52¾		2,000,000	50	$2S.A.	July 1, 29	Northern Pipe Line	No sales.					
67¾	55¾	67⅞	52	84	58½	19⅛	64⅛		60,000,000	25	50cQ*	Sept. 14, 29	Ohio Oil Co.	4,300	78⅝	78⅝	77¾	78	— ¾
24¾	15	39	12	84	28	44½	23⅛		10,000,000	25	75c	Dec. 15, 28	Penn Mex. Fuel	No sales.					
.	....	....	....	....	....	50	37¾		.....	....	$1.25S	June 20, 29	Solar Refining (new)	No sales.					
74½	61½	27¼	15½	19	15	22½	13		1,000,000	10	$10	Mar. 1, 29	Southern Pipe Line	400	22	22	22	22	...
50	34½	41½	35	71⅞	36¾	60¼	40⅜		2.000.000	25	50cQ	Dec. 31, 28	South Penn Oil (new) ...	900	48	48	47½	48	...
56	47½	83	55½	102	70	70	62¾		3.500.000	100	$1Q*	Oct. 1, 29	Southwest Pa. Pipe Lines.	50	56	56	56	56	...
70¼	60½	81½	64⅝	95⅞	70⅞	63	51½	(sh)	18,000,000	25	62½c*	Sept. 16, 29	Standard Oil of Indiana ..	55,100	57¼	55¾	55¾	55¾	+ ⅛
36½	16½	20⅞	14⅝	37¾	15	32½	18		8,000,000	25	.....	June 16. 24	Standard Oil of Kansas ..	10,900	30⅞	33¾	30	33	+ 1⅝
134⅜	108	130	111½	179¾	122¼	46⅞	35⅛		17,012,559	10	40c*	June 26, 29	Standard Oil of Kentucky.	14.000	46¼	46⅜	43	44	—1⅜
51⅛	42	49½	40	54⅞	39⅞	50¼	45½		4,559,850	25	62½cQ*	Sept. 20, 29	Standard Oil of Nebraska.	100	48	48	48	48	— ½
372	288	87½	72	134	71	129	110¼		14,000,000	25	62½cQ	Oct. 1, 29	Standard Oil of Ohio	150	110¼	111	110¼	111	—1
21	15	21	14½	23½	16	18	15		861,000	25	.....	Nov . 1, 19	Swan Finch Co.	50	111	111	111	111	...
109⅜	90¼	....	....	111	72	133¾	105½		125,619.000	25	75cQ*	Sept. 20, 29	Vacuum Oil Co.	5,900	125⅞	126⅞	122¾	123⅝	—2

*Also extras.

TO ENLARGE REFINERY

CHATHAM, Ontario, Oct. 21.—It is reported that Canadian Oil Co., Ltd. is planning important extensions to its refining plant at Petrolia, Ontario. The plant has a present capacity between 35,000 and 40,000 bbls. per month; and plans call for an enlargement at a cost of $500,000 to increase capacity to 50,000 bbls. A year ago the company had approximately 75 service stations of its own, in addition to stations to which it sold its products. The number owned has since increased to 100. F. H. Littlefield is general manager of the company.

IMPROVE ETHYL GASOLINE

CHICAGO, Oct. 18.—The Standard Oil Co. of Indiana made announcement of its new Red Crown Ethyl gasoline on the fifteenth of this month at which time their stations were supplied with the new motor fuel which has for its gasoline base a 60-62 400 endpoint gasoline. This gasoline is better than required under the licensed agreement with the Ethyl Gasoline Corp.

NOT ANY TROUBLE TO PRORATE IN OKLAHOMA

(Continued from Page 38)

All B wells will be opened up at 7 a.m. November 16 to November 20.

All A and B wells will be opened up at 7 a.m. November 20 to November 22.

All A wells will be opened up at 7 a.m. November 22 to November 26.

All B wells will be opened up at 7 a.m. November 26 to November 30.

Both A and B wells will be opened up at 7 a.m. November 30 to December 2.

It is planned that if the above schedule does not accomplish the required decrease in production, temporary measures will be formulated which will bring the crude output down to the proper figure.

The purchasing companies will be able to handle all the oil produced during the remainder of the month. In November there will be additional pipe line facilities. The Empire, Prairie, Shell, Magnolia, Sinclair and Oklahoma pipe lines will all be functioning and can take care of say 110,000 bbls. a day.

Umpire Otto Bradford, who will continue in charge of the Oklahoma City proration under the general direction of Umpire Collins, said on Monday that in his opinion the Oklahoma City Pool could produce 400,000 bbls. a day by January 1 if permitted to develop and fully produce, which fact proves the necessity for a sane development of the area.

Sunday Shut Down

The Sunday shut down movement inaugurated by the Prairie Oil & Gas Co., has been adopted by the Indian Territory Illuminating Oil Co. and the Magnolia Petroleum Co., on all their properties. While this is intended to help in the curtailment of production it is aside from the proration ordered by the Corporation Commission. In other words a Sunday shut down in any of the prorated fields will not be considered sufficient if it does not cut the company's production in that field to the required amount for the week. In such case the company would be subject to further curtailment sufficient to bring it down to its prorated share.

The Corporation Commission in its order brought the purchasing companies into the movement by forbidding them to run oil that was produced contrary to the rules laid down in the order. This precludes any manifestation of favoritism and is a powerful aid to the umpire.

80 Rigs, 380 Drilling Wells

When the Corporation Commission ordered the curtailment of the flush and semiflush areas in Oklahoma there were 80 rigs and 380 drilling wells in the areas affected.

The Oklahoma City Field had the largest number of operations of any of the curtailed fields. There were 19 rigs, and 140 wells drilling in the field in addition to the wildcats in the general area, but in territory not yet included in the curtailment movement.

In the Allen district 6 rigs and 19 drilling wells were reported in a canvass of that field. Six rigs and 15 wells drilling in Ssaakwa; 13 rigs and 73 wells drilling in Township 9-6, most of these in the East Earlsboro area, although the old Seminole City Pool is also in Township 9-6. In the Little River area there were 7 rigs and 19 drilling wells, while in East Little River 2 rigs and 22 drilling wells were reported. Earlsboro had 6 rigs and 12 drilling wells; East Seminole 1 rig and 5 wells drilling; Bowlegs, 7 drilling wells; Carr and Maud, in Township 8-5, 3 rigs and 12 wells drilling. In the St. Louis Field, 9 rigs and 46 wells drilling were recorded and in Asher 1 rig and 10 wells were drilling.

Average Daily Production Before Proration

	No. of wells	Daily prod. bbls.	Av. Per well bbls.
Allen	227	24,564	108
Asher	22	7,186	326
Pearson	56	974	17
St. Louis	426	57,281	134
Sasakwa	27	12,030	446
Little River	344	54,405	158
East Little River	34	27,281	802
Carr City	57	10,170	178
Maud	133	10,118	76
Mission	111	20,042	180
Bowlegs	295	31,019	105
Earlsboro	293	45,857	157
East Seminole	27	6,538	242
Seminole City	274	31,237	114
Searight	83	11,890	143
Marshall, Logan Co.	33	15,619	473
Total	2,442	366,211	150

It is estimated that by November 1, when Oklahoma City and East Earlsboro join the general proration movement, Oklahoma City will have 24 oil wells with a potential production of 125,000 bbls. and East Earlsboro 45 wells with a potential of 46,000 bbls. It is planned to cut production 40 per cent, and if the above estimates prove correct proration would bring the production of the two fields down to 75,000 bbls. and 27,600 bbls. respectively.

Field Committees

In his duties as umpire in the various fields in Oklahoma that are or will later be under curtailment, Ray M. Collins will be assisted by a committee of producers in each pool.

In the Allen Pool, R. A. Griffith, Sinclair Oil & Gas Co.; C. H. Wright, Sunray Oil Co., and George Moody, Mid-Continent Petroleum Corp., will work with the umpire, and in the other pools the following will serve: Lovell Pool, Logan County, H. D. Aggers, Wentz Oil Corp.; Glenn Haroun, Sinclair Oil & Gas Co.; R. W. Bond, Shell Petroleum Corp.; M. E. Church, J. E. Crosbie, Inc.; Greater Seminole and East Earlsboro, J. S. Sidwell, Prairie Oil & Gas Co.; J. J. Conry, Carter Oil Co.; R. F. MacArthur, Barnsdall Oil Co.; Kenneth Winship, Gypsy Oil Co.; and L. C. Hawkins, Magnolia Petroleum Co.; Oklahoma City Field, M. J. Kerwin, Indian Territory Illuminating Oil Co.; J. S. Sidwell, Prairie Oil & Gas Co.; Wirt Franklin, Wirt Franklin Petroleum Corp., and Cromwell-Franklin Oil Co.; Ralph Roark, Shell Petroleum Corp.; Glenn Haroun, Sinclair Oil & Gas Co.

In some of the pools that went on proration on October 16 by order of the Oklahoma Corporation Commission, namely, Asher, East Little River, and Sasakwa, and the Wilcox sand wells in the Allen Pool, the gauges will be taken under the supervision of the umpire and each leaseowner shall take a gauge of his 24-hour potential production for a 24-hour period each week (from 7 a. m. Wednesday to 7 a. m. Thursday). To insure accuracy and equality among operators the umpire is ordered to appoint as witness of the production gauge a representative of an operator owning an adjoining property. It shall be the duty of each person so appointed to be present on the lease to be gauged throughout the whole 24 hours the gauge is in progress. The operator and the witness must each file a report on the amount of the gauge. The umpire is ordered to send to each operator in the field a report on the potential gauges of each lease in the field. On the basis of the potentials operators are ordered to pinch in all wells to the percentage of their potential capacity fixed for the month.

The production on the day the potential is taken will not be considered as free or allowed production but must be deducted from the allowed production during the following six days.

A Different Method

A different method is ordered for the other fields under proration. In the deep sand pool in Logan County, Seminole City, Searight, old Earlsboro, Maud, Mission, Bowlegs, Carr City, Little River, St. Louis and Pearson and the wells in Allen outside of the Wilcox sand wells, a gauge of potentials was ordered taken according to the decline curve of each pool. The daily average production for each lease in September constituted the potential for the remainder of October and new potentials for November and December will be arrived at by using the decline curve on each lease fixed by the umpire and the operators' committee.

Watch on the Crude Stocks

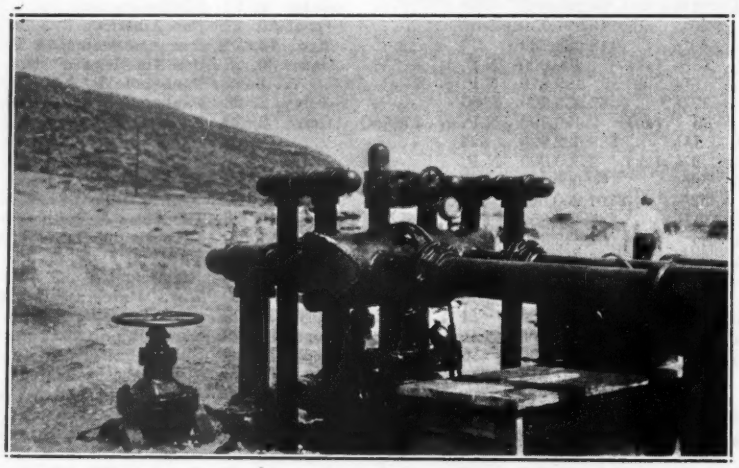
The Corporation Commission order says: "The lease foreman or his representative on each lease in the above described areas shall be named by the umpire as gauger for the purpose of witnessing the gauge of stock on hand on October 16, November 1 and December 1 on all adjoining leases. It shall be the positive duty of the person so appointed to be present on the lease or leases to be gauged, and to witness and verify the correctness of the same. The operator and the witness jointly shall file with the umpire a written statement of stock on hand. Statements of potentials and stock on hand shall be mailed to all interested companies as soon after the beginning of each period as possible so that the potentials can be checked by the adjoining leaseowner."

The Oklahoma City Pool is permitted to produce to capacity until November 1 when it joins the proration movement. East Earlsboro is now on a 50 per cent proration basis. On November 1 it will take part in the general proration movement. In November Oklahoma City and East Earlsboro will be curtailed 40 per cent and in December 50 per cent and the other fields will be curtailed 20 per cent until December 1 when they will be subjected to a 25 per cent proration.

COUNTRY'S LARGEST POTENTIAL PRODUCER IS NOT PRETENTIOUS

When reports are received about a well flowing 4,812 bbls. of oil in 34 minutes or having a potential production of about 204,681 bbls. per day the thought is conveyed to the reader that oil is flowing in a huge stream high over the derrick and everything for some distance around the well is bathed in oil.

However, such is not the method of procedure in the Yates Pool where a well having the above noted capacity has recently been completed on the I. G. Yates lease of the Mid-Kansas Oil & Gas Co.'s property known as A-30. This well was drilled with portable type drilling machine and cased with 8¼-inch casing and was brought in without appreciable loss of oil or gas.



Yates Pool well with potential production of 204,681 bbls. daily.

The picture shows the well as it now appears and it is to be noted that no derrick or other structure is over the hole. The header is made from 15½-inch 70-pound casing and a piece about 4 feet long is used with the ends closed by welding.

The side outlets are made from 6⅝-inch casing and those on top of the header are made from 4-inch pipe. By the use of the control valves this well can be produced at will and because of the proration placed upon this field it has not been opened for a full flow for more than the short test period that is allowed each well in this area to determine the basis for proration.

While this well gauged over 204,000 bbls. per day under the test conditions it was working against a back pressure of from 175 to 185 pounds per square inch and if it were permitted to flow direct to the atmosphere it would undoubtedly make much more oil than this test indicated.

The Yates Pool is noticeable to the visitor in that it does not present a "forest of derricks" so often referred to in literature for unless one is informed a trip might be made through the area without realizing that it has a potential production of several millions of barrels of oil daily except that attention might be directed to the numerous batteries of tanks set at each well and the 55,000-bbl. capacity tanks at the pump stations of the pipe line companies.

The method of finishing the wells similar to that shown in the picture has permitted the area to be drained in a very uniform manner and to date there are no wells making water with the oil in that portion of the field located upon the structure, and only a few edge wells produce water and they are so situated that water movement from them to the main portion of the field can be controlled to a great extent. This is an outstanding example of the application of good production methods to an area that might be easily turned into a flooded one if open flow production was indulged in for a very short time.

CAUSES AND CURES FOR HOT ENGINE BEARINGS

(Continued from Page 129)

ammonia introduced into a hot bearing will sometimes check heating by saponification, soap being an excellent lubricant.

If after trying the remedies just mentioned, the bearing continues to grow hotter, say to the extent of scorching the hand or burning the oil, it indicates that the brasses have been expanded by the heat and that they are gripping the journals harder and harder the hotter they get. At this stage if the engine is not stopped or if the heating is not checked, the condition of the bearing will continue to grow worse as long as the engine is running and may become so bad as to slow down and eventually stop the engine by excessive friction. By this time the brasses and journal are badly cut and in bad condition generally and the engine must be laid up for repairs.

The state of affairs mentioned should not be permitted to be reached. After the simple remedies given have been tried and failed to produce the desired result, the engine should be stopped and the cap nuts or key of hot bearing should be slacked back and the engine allowed to stand until the bearing has cooled off. The cooling may be hastened by pouring cold water upon the bearing though this is objectionable, as it may cause the brasses to warp or crack by unequal contraction.

Emergency Action

Putting water on a very hot bearing should be resorted to only in an emer-

gency, that is, when an engine must be kept running regardless of a spoiled pair of brasses.

Water may be used on a moderately hot bearing without doing very much harm. It is quite common in practice, when sprinklers are fitted to an engine to run a light spray of water on the crankpins when they show a tendency to heat with very beneficial results.

If the engine is not started again until the faulty bearing has become perfectly cool, the cap nuts or key should be set up a little but not too much, before starting; otherwise, the brasses, having been slacked off, may be too loose, and excessive thumping and pounding will ensue.

STEEL MILLS MAINTAIN STAND ON PRICE LIST

By B. E. V. Luty

PITTSBURGH, Pa., Oct. 21.—Pipe mills find there is no line pipe business in prospect at present and they do not expect any for some time. The two Texas to Chicago natural gas projects are expected to combine before the end of the year and may then place the pipe, which would be a record large order, 950 to 1,000 miles, nearly if not quite 200,000 tons.

Both pipe mills and seamless tube mills are estimated to be operating at an average of about 65 to 70 per cent. There has been no material change in pipe mill operations since the speeding up fully three months ago, due to placing of various small line pipe orders, for main lines, feeders and branches, while seamless tube operations have slipped off somewhat in the past two or three weeks, on account of there being lighter demand for oil country goods, mechanical tubing and boiler tube demand holding up fairly well.

Standard pipe is in good seasonal demand but the season is now nearly over. Buying is particularly in small lots for prompt shipment. While it is not the custom nowadays to carry stocks of any size, there is a special effort towards the close of the year to keep stocks down, on account of inventory.

As noted right along, the sum total of steel demand has been slipping since May, steel production decreasing very gradually. In the past week or two the downward trend has been somewhat greater, and it is possible steel ingot production is now not over about 80 per cent of capacity, against over 99 per cent last May.

The time for any autumn revival in steel demand passed several weeks ago and nothing but further decreases is in sight as the end of the year is approached. Just how low production will dip cannot be predicted, but probably an operation below 70 per cent for the last two or three weeks of the year. Invariably, however, demand increases at that time and it is the regular thing for production to increase for three or four months after December.

The major part of the decrease in steel production is due to the greatly decreased requirements of the automobile industry and to rails being out of season in a manufacturing way. There are probably various other decreases, of a seasonal character. Apparently there is no unfavorable trend in general trade that would involve lessened steel demand. Fabricated structural steel is a good index in that direction and it has been holding up very well indeed.

The annual rail buying movement is now well under way, with a total of about 400,000 tons reported to date. The movement is occurring at substantially the usual time and the tonnages taken average about the same. Thus the roads which had bought to date totaled just about the same tonnage one year ago and two years ago, although some have bought more and others less.

Building of freight cars got up to a rate of about 10,000 cars a month in May, but has been tapering off somewhat in the past few weeks, the old orders being nearly completed. A fresh buying movement seems to have started, for about 10,000 cars have been bought in the past three or four weeks and the steel trade counts up inquiries for 18,000 cars now pending. Building 10,000 cars a month requires steel occupying between 4 and 5 per cent of the total steel capacity.

The increase in September of 244,370 tons in the Steel Corporation's unfilled obligations was seasonal, following four months of decreases, as the forward business of earlier in the year had previously been worked off and in September there were rail orders, also some contracts in various lines for fourth quarter.

No further declines or softening in steel prices are reported. The mills seem to be making a determined stand in the matter of prices, realizing that declines now could not be recovered for the large business expected for first quarter delivery.

CALIFORNIA CRUDE PRICE CUT FIFTY PER CENT

(Continued from Page 37)

the surface and natural gasoline extracted from the wet gas.

The coming week will probably be spent in almost endless argument to determine the constitutionality of the gas law and several days may elapse after conclusion of the debate before the court announces its decision. It is believed Judge Hazlett may issue a temporary restraining order at that time if the State proves its point that the law is just and equitable.

Stocks Increasing

Stocks of crude and refined oils on the Pacific Coast have been consistently increasing for some time, the accumulation during the month of September aggregating 5,133,154 bbls. Light refining crude increased 2,935,420 bbls., while heavy crude, including fuel oil, gained 1,599,488 bbls. during the same period. Gasoline stocks increased 232,830 bbls., while 409,765 bbls. of tops were also added to storage. Other refined products showed a slight decline during the past month, the draft being 44,349 bbls. Total fluid stocks held on the Pacific Coast at the close of last month, September, aggregated 180,184,822 bbls. Of this amount 110,812,803 bbls. were heavy crude and fuel oil, 40,711,584 bbls. light refining crude, 15,223,742 bbls. gasoline, 3,287,087 bbls. tops and 10,149,606 bbls. other refined products. Crude oil production during September aggregated 26,404,264 bbls. and averaged 880,142 bbls. per day, an increase of 1,647 bbls. daily over the preceding month.

The present situation is somewhat analogous to conditions existing a few years ago when major companies cut the price of crude oil and supplemented the reduction with a statement that the downward revision was made necessary because of the necessity of constructing additional storage facilities to handle future production and that producers were being indirectly charged for the additional expenditure required. Tankage in California has been at a premium for several months and, while some companies have already started to augment existing facilities, most of the major companies have just about reached the total rated capacity of their facilities and will be obliged to construct additional tankage or restrict pipe line runs soon. Large purchasers of crude oil have been marking time in the hope that the gas conservation law would eliminate the necessity of constructing additional storage. They have naturally been very reluctant to build additional tankage due to the uncertainty regarding the constitutionality and validity of the gas conservation law.

RUSSIAN ENGINEERS DEVISE ROTARY BIT

(Continued from Page 40)

hole in which the turbine and gear mechanism is enclosed.

Slush Pumps

The slush pumps are of the usual steam driven type and are used to build up pressures of from 225 to 250 pounds per square inch and this pressure is transmitted to the turbine at the bottom of the hole through the drill pipe, which does not rotate nor does the steel case in the well revolve, and this lack of motion of these parts is naturally a conservation of energy.

Inside the steel case at the end of the drill pipe is assembled the moving parts of the turbine and the gears and the drill bit, either of the fishtail, cone or roller type is fastened to the lower end of the turbine shaft.

Many questions were asked by the engineers at this meeting regarding details of this outfit and most of them were answered by the Russian engineers but inasmuch as the methods of drilling rotary holes in that country and here are quite different it was hard to get any direct comparisons but the development of this unit for use in the United States will be watched with much interest.

Being built upon entirely new principles and ones that at this time are practically unknown to the engineers of this country there is naturally many points unexplained but the fact that they have drilled and are still drilling oil wells with this type of apparatus in U.S.S.R. is evidence that the equipment does work but its economical aspects are still open for consideration.

OIL PRODUCTION SUPERINTENDENTS HOLD CONFERENCE

Standing, left to right: C. E. Beecher, D. A. Howard, G. E. Goddard, L. A. Ogden, Sam Harlan, E. G. Brua and E. E. Ives. Seated, left to right: N. M. Hutchinson, J. G. Dickinson, A. W. Ambrose, M. R. Shaffer, C. S. Warren and J. E. Howell.

Division superintendents of the oil production department of the Empire Companies were in Bartlesville, Okla., recently attending a departmental conference. Those present from outside Bartlesville were J. G. Dickinson, superintendent of the Kansas division; D. A. Howard, superintendent of the Oklahoma division, and E. E. Ives, assistant superintendent; G. E. Goddard, superintendent of the North Texas division; C. S. Warren, superintendent of the West Texas division; and N. M. Hutchinson, production engineer for the Kansas division. N. H. Moore, superintendent of the South Texas division, was unable to be present on account of several wells being drilled in necessitating his personal attention.

A most interesting and beneficial program was given, accompanied by full discussion of all papers and talks.

M. R. Shaffer, general superintendent, presided and after his opening remarks introduced A. W. Ambrose, manager of production, who spoke on the activities of the division as a whole. The following subjects were then presented: "Operating Costs," J. E. Howell; "Accident Prevention," Sam Harlan; "Job Order Accounting," J. B. Sushnik; "Oil Treating," N. M. Hutchinson; "Oil Field Equipment," L. A. Ogden; "Production Engineering," C. E. Beecher; "Customer Ownership," E. G. Brua; "Divisional Activities," J. G. Dickinson, D. A. Howard, G. E. Goddard and C. S. Warren.

W. A. Sinsheimer, of the oil production division of Henry L. Doherty & Co., New York, gave an interesting talk on company activities in states outside the Mid-Continent area and also in foreign countries.

BUREAU OF MINES REPORT FOR YEAR 1928

(Continued from Page 72)

represents an estimate of the amount of natural gasoline sold direct to jobbers. Deducting these figures leaves 376,945,000 bbls. for the production of gasoline at refineries. This represents an increase over 1927 of 14 per cent. The recovery of gasoline per barrel of crude oil processed continued to increase steadily and in 1928 amounted to 41.3 per cent as compared with 39.9 per cent the previous year. Deducting natural gasoline from the total gasoline production, the yields of gasoline from crude alone in the years 1927 and 1928 were 36.0 and 37.4 per cent, respectively. The increase in yield of gasoline in 1928 was due to several reasons, two of which were the increased recovery from cracking and the use of higher grade crude in California. Texas continued to be the leading gasoline-producing district, with an output of 80,863,000 bbls., or 21 per cent of the total, followed by California with an output of 66,676,000 bbls., or 18 per cent of the total. The daily average gasoline production, like crude runs, reached its peak in September when it amounted to 1,122,000 bbls. per day.

The consumption of gasoline continued to increase in 1928 but the rate of increase showed a tendency to fall back to a more conservative pace. The total indicated domestic demand for the year amounted to 328,489,000 bbls., an increase over 1927 of 11 per cent as compared with an increase of 14 per cent for 1927 over 1926. Daily average domestic demand for gasoline increased steadily each month up to September, after which the seasonal element caused a gradual decline throughout the remainder of the year.

Gasoline Stocks Decline

The situation as regards gasoline stocks constituted one of the brightest features of the year for the refiner. Stocks did not accumulate in the spring months to the usual extent, which, combined with the increase in consumption, resulted in storage reaching the extremely low point of 26,378,000 bbls. on September 30. At the rate of total demand (domestic demand plus exports), then prevailing, this figure represented only 23 days' supply. Furthermore, since the refiners must necessarily maintain large amounts of what they term "working stocks," it follows that the actual days' supply of gasoline on hand September 30 was an extremely low figure.

Exports of gasoline continued to gain and in 1928 amounted to 52,904,000 bbls., an increase over the previous year of 19 per cent. The heaviest exports were recorded in May, June, and July. Imports of gasoline continued to be of comparatively little importance and declined to 4,198,000 bbls. from 5,002,000 bbls, the year previous.

Cracked Gasoline Increase

Of the total gasoline output in 1928, 219,168,000 bbls., or 58 per cent, was produced by straightrun methods, 122,554,000 bbls., or 33 per cent by cracking, and 35,223,000 bbls., or 9 per cent, resulted from the use of natural gasoline. This indicates an increase in the proportion of gasoline produced by cracking but a decrease in both of the other two methods. In general, conditions in 1928 were favorable for cracking, that is, cracking stocks were cheap and gasoline prices were higher than in 1927.

The production of kerosene in 1928 was higher than in 1927—59,353,000 bbls. in 1928, 56,113,000 bbls. in 1927—but the percentage yield declined from 6.8 to 6.5 per cent. The major portion of the increase in output was accounted for in exports, which rose from 19,537,000 bbls. in 1927 to 22,034,000 bbls. in 1928. Total indicated domestic demand for the year amounted to 36,235,000 bbls., a slight drop from 1927.

The production of gas oil and fuel oil in 1928 totaled 427,237,000 bbls. in 1928, a recovery from the crude processed of 46.8 per cent as compared with 47.4 per cent the previous year. This decline was due mainly to increased cracking. Stocks of gas oil and fuel oil east of California showed comparatively little change in 1928, which, in conjunction with the increase in output, would indicate a small increase in consumption over 1927. Stocks of heavy crude and fuel oil in California increased over 5,000,000 bbls. in 1928 as preference was given to light crudes for refining purposes.

The trend in the statistics of lubricants again reversed itself in 1928, when both production and indicated domestic demand were higher. This was contrary to the expectations of those that maintain that oil-savers and reclaimed oil are re-

GASOLINE STATISTICS, 1928
(Thousands of barrel of 42 U. S. gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
PRODUCTION:														
East Coast	4,254	4,116	4,179	4,108	4,319	4,385	4,768	4,800	4,671	4,907	4,503	4,684	53,694	49,247
Appalachian	1,106	1,140	1,203	1,270	1,359	1,366	1,414	1,412	1,424	1,417	1,371	1,407	15,894	12,581
Indiana, Illinois, Kentucky, etc.	3,859	3,700	4,040	4,050	4,548	4,580	5,063	5,244	5,182	5,210	5,133	5,107	55,716	43,682
Oklahoma, Kansas and Missouri	4,387	4,185	4,767	4,803	5,097	5,021	5,380	5,721	5,714	5,585	5,111	5,182	60,943	55,215
Texas	5,925	5,809	6,520	6,579	6,452	6,360	6,915	7,320	7,292	7,415	7,355	6,921	80,863	71,276
Louisiana-Arkansas	2,030	1,932	2,099	2,166	2,289	2,051	2,215	2,184	2,337	2,404	2,423	2,532	26,662	24,006
Rocky Mountain	1,208	1,059	1,299	1,347	1,516	1,371	1,429	1,478	1,501	1,510	1,399	1,380	16,497	14,313
California	5,193	4,821	5,209	4,977	5,257	5,659	5,775	5,778	5,549	5,967	5,770	6,721	66,676	60,115
Total	27,962	26,762	29,311	29,300	30,837	30,793	32,959	33,937	33,670	34,415	33,065	33,934	376,945	330,435
Texas Gulf Coast	4,730	4,644	5,180	5,193	4,962	4,876	5,226	5,469	5,620	5,642	5,714	5,270	62,526	56,412
Louisiana Gulf Coast	1,613	1,502	1,596	1,644	1,698	1,531	1,683	1,626	1,751	1,807	1,837	1,911	20,199	19,006
STOCKS END OF PERIOD:														
East Coast	5,891	6,417	7,041	6,841	6,312	5,653	4,859	4,300	4,586	4,565	4,840	5,537	5,537	4,748
Appalachian	1,234	1,376	1,352	1,290	1,157	1,133	1,021	742	765	810	936	1,229	1,229	1,035
Indiana, Illinois, Kentucky, etc.	4,619	5,277	5,617	5,507	5,030	4,679	4,103	3,483	3,425	3,648	4,220	5,099	5,099	3,734
Oklahoma, Kansas and Missouri	3,507	4,054	3,990	4,198	3,441	3,054	2,190	1,733	1,967	2,120	2,657	3,691	3,691	2,983
Texas	5,174	5,620	5,648	5,908	5,946	4,567	4,273	4,820	4,017	3,987	4,548	4,863	4,863	4,889
Louisiana-Arkansas	1,905	1,768	1,725	1,690	1,418	1,248	1,085	1,006	1,347	1,669	1,884	2,158	2,158	1,491
Rocky Mountain	2,035	2,143	2,114	2,199	2,058	1,913	1,694	1,197	932	928	1,169	1,568	1,568	1,643
California	13,015	13,205	13,602	13,562	12,868	12,615	11,219	9,794	9,339	8,708	8,931	8,921	8,921	12,793
Total	37,380	39,860	41,089	41,195	38,230	34,862	30,394	27,075	26,378	26,435	29,185	33,066	33,066	33,316
Texas Gulf Coast	4,399	4,778	4,742	5,113	5,216	3,883	3,663	4,217	3,482	3,330	3,780	4,063	4,063	4,197
Louisiana Gulf Coast	1,807	1,660	1,617	1,583	1,327	1,180	966	912	1,213	1,515	1,721	1,979	1,979	1,413
PRODUCTION BY CRACKING:														
East Coast	1,556	1,474	1,578	1,609	1,739	1,844	1,926	2,020	2,046	2,058	1,986	1,954	21,790	17,383
Appalachian	283	329	338	355	377	400	409	403	433	438	395	419	4,579	2,982
Indiana, Illinois, Kentucky, etc.	1,688	1,495	1,584	1,641	1,838	1,851	2,117	2,259	2,241	2,200	2,193	2,172	23,279	18,928
Oklahoma, Kansas and Missouri	1,453	1,319	1,525	1,538	1,628	1,614	1,732	1,856	1,906	1,862	1,716	1,609	19,758	16,940
Texas	2,267	2,540	2,775	2,393	2,243	2,313	2,545	2,617	2,827	2,939	2,886	2,504	30,849	28,682
Louisiana-Arkansas	538	546	647	613	594	581	728	711	820	753	802	808	8,141	6,865
Rocky Mountain	498	428	518	538	625	545	597	651	634	621	563	562	6,780	5,659
California	611	546	606	536	558	540	597	511	445	661	838	929	7,378	3,787
Total	8,894	8,677	9,571	9,223	9,602	9,688	10,651	11,028	11,352	11,532	11,379	10,957	122,554	101,226
Texas-Louisiana Gulf Coast	2,440	2,707	2,951	2,544	2,381	2,473	2,859	2,838	3,135	3,203	3,218	2,838	33,587	31,102

NATURAL GASOLINE AND MOTOR FUEL IN THE UNITED STATES IN 1928
(By months, in millions of gallons)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
NATURAL GASOLINE: Production by Fields:														
Appalachian	10.6	10.3	10.1	9.3	7.4	6.2	5.5	5.8	6.8	7.9	9.2	10.6	99.7	94.4
Kentucky, Illinois, etc.	1.3	1.3	1.4	1.3	1.2	1.0	.9	.9	1.0	1.2	1.2	1.5	14.2	16.0
Oklahoma	50.4	50.7	51.9	50.4	49.7	48.8	49.5	48.5	49.9	54.1	55.4	57.0	616.3	544.5
Seminole*	19.3	19.3	19.1	19.4	18.7	18.7	19.3	19.2	20.2	23.7	25.1	25.5	247.5	...
Osage County	8.4	8.4	9.0	8.2	8.5	8.2	8.0	8.0	8.1	8.2	7.6	8.1	98.7	...
Rest of State	22.7	23.0	23.8	22.8	22.5	21.9	22.2	21.3	21.6	22.2	22.7	23.4	270.1	...
Kansas	2.6	2.8	2.9	3.2	3.1	3.0	2.8	2.9	2.9	3.0	3.2	3.3	35.7	34.0
Texas	26.2	25.5	26.9	26.7	27.2	25.9	26.1	26.4	28.1	30.4	30.4	31.2	331.0	316.6
Panhandle	7.7	7.4	7.6	8.5	8.7	8.6	8.7	9.0	10.3	11.6	12.1	12.3	112.5	...
North Texas	4.0	3.7	3.8	3.8	3.8	3.6	3.3	3.4	3.6	3.7	4.0	4.2	44.9	...
West Central	13.2	13.0	14.0	13.0	13.2	12.3	12.7	12.6	12.8	13.7	13.0	13.2	156.7	...
Rest of State	1.3	1.4	1.5	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.3	1.5	16.9	...
Louisiana	4.2	4.3	4.5	5.0	4.8	4.3	4.5	4.5	4.7	4.8	4.8	5.1	55.5	45.0
Arkansas	2.5	2.5	2.7	2.8	2.9	2.8	2.8	2.8	2.7	2.7	2.6	2.7	32.5	37.5
Rocky Mountain	3.3	3.4	3.8	3.7	4.1	3.8	3.6	4.2	4.2	4.2	3.9	3.8	45.9	45.9
California	42.4	38.9	41.7	43.1	46.3	45.5	48.6	48.4	46.2	48.4	47.6	49.8	546.9	489.7
Long Beach	9.0	8.9	10.3	12.3	14.9	15.5	17.4	17.7	17.6	18.4	17.2	17.9	177.1	...
Ventura Avenue	6.3	5.3	5.4	5.5	5.5	5.0	5.6	5.5	4.8	5.8	5.3	5.5	65.5	...
Seal Beach	2.8	2.5	2.6	2.6	2.8	2.8	2.7	2.6	2.3	2.4	2.4	2.4	30.9	...
Huntington Beach	4.5	4.1	4.4	4.4	4.4	4.1	4.2	4.1	4.0	4.1	3.9	3.9	59.1	...
Santa Fe Springs	3.1	2.9	3.1	3.0	3.1	2.9	2.9	3.1	2.8	2.9	3.9	5.9	39.6	...
Rest of State	16.7	15.2	15.9	15.3	15.6	15.2	15.8	15.4	14.7	14.8	14.9	14.2	183.7	...
Total United States	143.4	139.7	145.9	145.5	146.7	141.3	144.3	144.4	146.5	156.7	158.3	165.0	1,777.7	1,623.6
Daily average	4.6	4.8	4.7	4.9	4.7	4.7	4.7	4.7	4.9	5.1	5.3	5.3	4.9	4.4
Stocks at end of period	31.1	34.6	35.4	34.9	34.0	27.2	20.0	17.4	18.3	16.9	17.0	25.5	25.5	30.8
Indicated deliveries	143.1	136.2	145.1	146.0	147.6	148.1	151.5	147.0	145.6	158.1	158.2	156.5	1,783.0	1,611.9
BLENDING AT PLANTS:														
Natural gasoline used†	2.1	2.3	2.5	2.6	2.3	2.4	2.5	1.9	1.7	1.9	2.2	2.3	26.7	34.6
Naphtha used†	3.2	3.3	3.4	3.2	3.4	3.1	3.0	2.3	2.1	1.8	2.6	2.9	34.3	53.4
Stocks of blends at end of period	1.2	1.2	1.1	1.3	1.2	1.2	1.1	.9	.9	.7	.9	1.1	1.1	1.4
INDICATED OUTPUT OF MOTOR FUEL:														
Gasoline produced at refineries	1,174.4	1,124.0	1,231.0	1,230.6	1,295.1	1,293.3	1,384.3	1,425.4	1,414.2	1,445.4	1,388.8	1,425.2	15,831.7	13,878.3
Natural gasoline blended at plants†	2.1	2.3	2.5	2.6	2.3	2.4	2.5	1.9	1.7	1.9	2.2	2.3	26.7	34.6
Natural gasoline sold to jobbers (estimated)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	25.2	9.6
Benzol produced‡	9.5	9.1	10.0	9.6	10.0	9.7	9.6	9.8	9.7	10.3	10.1	10.6	118.0	107.6
Total United States	1,188.1	1,137.5	1,245.6	1,244.9	1,309.5	1,307.5	1,398.5	1,439.2	1,427.7	1,459.7	1,403.2	1,440.2	16,001.6	14,030.1
Daily average	38.3	39.2	40.2	41.5	42.2	43.6	45.1	46.4	47.6	47.1	46.8	46.5	43.7	38.4

*Does not include St. Louis-Pearson and Maud districts. †Exclusive of California. ‡Estimated with production of by-product coke as basis.

ducing the refinery demand for lubricating oils by motor vehicles.

The paraffin wax industry was favored with an increased demand for their product both from domestic and foreign buyers in 1928 and experienced a comparatively prosperous year. Production increased but stocks fell from 150,638,000 pounds on January 1 to 110,344,000 pounds on December 31, 1928.

According to monthly reports, the production of natural gasoline in 1928 amounted to 1,777,700,000 gallons. The final figure, obtained by a complete annual canvass of all plants, amounted to 1,814,034,000 gallons, an increase over the previous year of 11 per cent as compared with 20 per cent the year previous.

The production of natural gasoline in 1928 was fairly steady until September, after which it increased rapidly to the end of the year. The main reasons for this late-season increase were the stimulation accorded by increased prices and the increase in output resultant from new plants and extensions in the Greater Seminole district. This district was supposed to have reached its peak as a natural-gasoline producer early in 1928, but the discovery of new pools and production incident to the application of the gas-lift principle resulted in a material increase in output. Although blending at the plants declined, the use of natural gasoline by refiners in 1928 showed a material increase and stocks at the plants decreased from 30,800,000 gallons on January 1 to 25,500,000 gallons on December 31, 1928.

COMPARATIVE ANALYSES OF THE MAJOR REFINED PRODUCTS, 1928
(Thousands of barrels of 42 U S. gallons, except for wax)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1928	1927
GASOLINE:														
Production	27,962	26,762	29,311	29,300	30,837	30,793	32,959	33,937	33,670	34,415	33,065	33,934	376,945	330,435
Daily average	902	923	946	977	995	1,027	1,063	1,095	1,122	1,110	1,102	1,095	1,030	905
Imports*	562	373	259	472	368	212	268	479	193	388	304	320	4,198	5,002
Exports*	3,772	3,339	4,017	4,107	5,813	4,807	5,168	4,562	4,794	4,050	4,678	3,797	52,904	44,337
Stocks	37,380	39,860	41,089	41,195	38,230	34,862	30,294	27,075	26,378	26,435	29,185	33,066	33,066	33,316
Days' supply†	47	47	45	42	35	30	25	22	23	24	29	34	32	36
Domestic demand	20,688	21,816	24,324	25,559	28,357	29,566	32,527	33,173	29,766	30,696	25,941	26,576	328,489	296,807
Daily average	667	735	785	852	915	986	1,049	1,070	992	990	865	857	898	813
KEROSENE:														
Production	4,958	4,751	4,715	4,935	5,105	4,848	4,894	5,339	4,960	5,145	4,935	4,763	59,353	56,113
Daily average	160	164	152	165	165	162	158	172	165	166	165	154	162	154
Imports*	46	10	5	20	1	24	19	2	...	55	...	20	202	55
Exports*	2,297	1,550	1,878	1,913	2,057	1,656	1,833	1,678	2,090	1,755	2,091	1,236	22,034	19,537
Stocks	7,672	7,615	7,759	7,735	7,540	8,432	8,470	8,887	8,593	8,633	8,886	9,001	9,001	7,715
Domestic demand	2,750	3,268	2,698	3,066	3,244	2,324	3,042	3,246	3,164	3,405	2,591	3,437	36,235	37,491
GAS OIL AND FUEL OIL:														
Production	33,183	31,956	34,510	34,043	35,831	35,766	36,934	37,517	37,104	37,029	35,871	37,493	427,237	393,066
Daily average	1,070	1,102	1,113	1,135	1,156	1,192	1,191	1,210	1,237	1,194	1,196	1,209	1,167	1,077
Imports*	553	666	848	1,176	784	468	484	515	397	320	411	646	7,268	8,124
Exports*	4,174	3,419	3,944	4,210	3,613	4,178	4,261	3,415	3,269	3,356	3,320	3,268	44,427	47,391
Stocks‡	30,665	29,560	29,104	29,669	32,887	36,085	36,410	39,236	39,900	39,599	37,878	34,926	34,926	34,022
Stocks§	124,992	124,357	123,588	123,970	126,828	130,319	132,073	134,293	136,463	136,573	135,317	133,845	133,845	127,741
LUBRICANTS:														
Production	2,654	2,728	2,878	3,026	3,091	3,009	2,828	2,891	2,833	2,979	2,743	2,993	34,653	31,721
Daily average	86	94	93	101	100	100	91	93	95	96	91	97	95	87
Imports*	...	1	...	1	3	1	1	1	1	1	1	3	13	8
Exports*	938	841	837	1,055	1,064	1,094	1,062	813	808	770	895	846	11,023	9,776
Stocks	7,988	8,332	8,384	8,018	8,060	7,832	7,667	7,711	7,742	7,830	7,921	8,340	8,340	7,860
Domestic demand	1,588	1,544	1,939	2,338	1,988	2,144	1,932	2,035	1,995	2,122	1,763	1,730	23,168	21,669
WAX (Thousands of pounds):														
Production	55,378	49,158	50,170	57,548	51,072	50,792	45,273	54,429	50,428	54,546	56,665	54,685	630,144	584,347
Daily average	1,786	1,695	1,618	1,918	1,647	1,693	1,460	1,756	1,681	1,760	1,889	1,764	1,722	1,601
Imports*	1,117	1,329	1,767	2,996	1,855	1,715	2,226	2,793	1,880	1,930	2,994	2,139	24,741	20,462
Exports*	39,715	38,207	40,246	34,189	34,827	33,593	35,290	31,446	27,133	26,281	25,168	26,610	392,705	340,423
Stocks	149,725	136,479	119,522	109,709	103,639	91,989	84,476	79,622	85,417	92,814	103,949	110,344	110,344	¶167,214
Domestic demand	17,693	25,526	28,648	36,168	24,170	30,564	19,722	30,630	19,380	22,798	23,356	23,819	302,474	282,503

*From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii, and Porto Rico. †Stocks divided by daily average domestic demand plus exports. ‡East of California. §Total gas oil and fuel oil stocks plus heavy crude in California. ¶Stocks to compare with 1928—150,638,000 pounds.

DOHERTY OFFERS $120,000 TO BACK HIS OPINION

(Continued from Page 39)

of war. It is being wasted in the most shocking manner. What we waste today in oil may compel us to pay for tomorrow for our folly of today, in a ruthless sacrifice of the blood and treasure of the nation and in ghastly magnitude.

"The laws under which oil is produced necessitate this colossal waste. Our laws automatically bring about depletion of our domestic resources and automatically conduce to the conservation of oil in foreign countries. Our laws invite foreign companies to produce their oils here to supply their markets abroad, and hold their ground resources unimpaired in foreign countries. We do not know how much oil we have left. All the evidence that can be produced and that is entitled to rank as true evidence would indicate that a shortage is imminent."

Frantic and Frenzied

Mr. Doherty shows that under the present American system of developing oil fields enormous quantities of oil and its products are ruthlessly thrown away, with the consequent destruction of a nation's oil reserves.

"Oil is now drilled for in such a frantic manner and produced in such a frenzied way," he continues, "that it is impossible to make any very accurate figures on the waste of oil, or even on the waste of gas; but I think it is safe to say that we might possibly increase the oil needed for war purposes as much as 20 times by the prompt adoption of sane laws to control it.

"Nature created these oil pools as a unit and we are trying to operate them, not for the benefit of the joint owners, but as a race to see which one of the owners can get the oil first. The present laws give ownership of the oil to whoever can capture it, regardless of where it comes from. In fact, the law legalizes robbery. The courts have said that excessive drilling cannot be enjoined and that the remedy is for the owners to offset this drilling. Under our present laws it is easily possible for one owner to get 30 times as much oil as had underlaid his property before the pool was opened."

With the waste of oil there is also a great waste of gas going on, Mr. Doherty asserts. He points out that hundreds of millions of cubic feet of helium gas have already been wasted. He says that the current daily waste of gas in the Texas Panhandle is 10 times as much as is used daily in the entire New York metropolitan district. He estimates that there is enough gas in this pool to supply New York for more than 200 years at the present rate of consumption.

In the Smackover Field, he says, all of the gas was soon blown to waste in a period of a few months. If the same thing should occur in western Texas, he adds, "our ignorant and vandalistic laws would compel the waste of all this gas within a few months after the discovery of a lower oil sand."

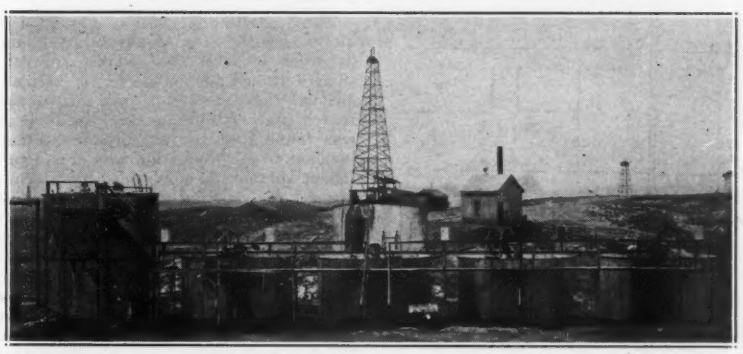
Asks "Sane Program"

Mr. Doherty points out that a sane program of oil conservation in the United States would greatly encourage the exploitation of foreign fields for American use.

"In event of the discovery of foreign oil in enormous quantities," he says, "such as happened in the so-called Southern Mexican Field, we could utilize this flush production of oil while it lasted and in times of peace as a means of holding our domestic deposits of oil in reserve.

"It is believed that Central and South America are capable of producing vast quantities of oil and, if overproduction could be checked in this country, it would stimulate production in these countries and automatically we would use a portion of this oil in times of peace and thereby conserve our domestic oil and make this oil a reserve for times of war."

CORROSION OF OIL STORAGE TANKS



Battery of aluminum and steel tanks on Gulf Production Co.'s Whittenberg A lease in Borger, Texas, field, erected for test purposes.

Valuable information bearing on the subject of oil storage tank corrosion, a matter of vital interest to the petroleum industry, is being obtained in the course of an investigation being conducted near Borger, Tex., by the Petroleum Experiment Station of the United States Bureau of Mines, Department of Commerce, Bartlesville, Okla., and the State of Oklahoma. This investigation is being conducted in co-operation with the Gulf Production Co., the Parkersburg Rig & Reel Co. and the Aluminum Co. of America. The great interest manifested by the petroleum industries in the subject of oil tank corrosion is due to several causes; first, the development of fields in which high-sulphur petroleum and hydrogen sulphide-bearing gases are being produced, and second, the use of vapor-tight tanks, as corrosion often takes place to such an extent that vapor-tight tanks become leaky. The tank battery upon which the observations are being made is located about 2 miles north of Borger, on Whittenberg-A lease belonging to the Gulf Production Co. The battery consists of one 500-bbl. all-aluminum flow tank, two 250-bbl. all-aluminum stock tanks, and two 250-bbl. all-steel stock tanks.

To carry on this investigation a fully equipped laboratory for making water analyses, photomicrographs, gas analyses, and various sulphur determinations for water, oil and gas has been established on the lease. In addition to the various chemical determinations many observations are continually made on the tank battery itself. Each tank is equipped with 10 thermocouples located at various strategic points, the temperatures being determined at regular intervals with a potentiometer. Each tank is also equipped with mercury-actuated recording thermometers. Complete records are maintained of the actual operating conditions in each tank, for example, if the tank is filling with crude oil, standing full, being emptied by the pipe line, or standing empty. Humidity determinations are made on the vapors in each tank. Test strips are suspended in two of the tanks; aluminum strips in one and steel strips in the other. At the end of each 60-day period a test strip is removed from each tank to provide specimens for tensile strength determinations and microscopic studies.

VAN ZANDT DISCOVERY IN EAST CENTRAL TEXAS

(Continued from Page 48)

a direct pipe line from the well if other satisfactory connections and transportation cannot be obtained.

At present there are 9,000 bbls. of oil in storage, and the remaining eleven 1,000-bbl. tanks will soon be filled, and more storage needed before a line can be run in and connected up to take the production.

Anderson County Play

The opening of the new field by Pure Oil Co. in Van Zandt County has renewed interest generally in the possibility of further new fields over East Central Texas and has renewed activity in leasing and royalty buying in most all parts of the division. In Anderson County and other parts of the inland salt dome area as well as fault zone a number of blocking projects were under way at the close of the week.

Field operations continued of little interest. In the Mount Calm area of Hill

County, Harper & Starkey's No. 1 Reynolds, in the shallow chalk pool opened there several months ago, at a total depth of 667 feet is slopping over an estimated 15 bbls. of oil daily into an earthen pit. This marks the first successful well in this pool since the discovery well, which still continues to pump around 20 bbls. net oil daily. The same operator's No. 1 Jones, which pumped a small amount of oil is standing and not yet a completion.

In Limestone County, Jensen & Baggett's No. 1 Powell, a test to extend production of the Mexia Field, has been abandoned as a junked hole with both drill stem stuck and fishing tools lost in the hole which went to 3,226 feet. This test is 1½ miles west of the center of the Mexia Field and within the city limits. Two other tests, Erwin Production Co.'s No. 1 Barling, Fannin County, and Southern Petroleum Co.'s No. 1 Barclay, were abandoned but these have been shut down for some time.

C. F. Lytle's No. 2 Thompson, a Trinity sand test at Mexia, is making rapid hole. At latest report, it was at 4,127 feet in broken sand and shale. This test is just 28 feet northeast of No. 1 which was abandoned at 6,138 feet with a bad hole.

On the Boggy Creek Dome, Humble Oil & Refining Co.'s No. 2 Beard, on the south side is reaming to set screen at 3,627 feet. This company's No. 4 Lizzie Smith has cemented 6⅝-inch casing at 3,656 feet; No. 2 Purvy is drilling sand at 3,471 feet; No. 3-A Jones is drilling surface formations; No. 2 Gauger is rigged up; No. 3-B Elliott & Clark is drilling at 1,500 feet, and Magnolia Petroleum Co.'s No. 1 Williams on the opposite side of the dome from Humble's development is fishing drill pipe with the hole at 3,888 feet.

Humble Oil & Refining Co.'s No. 1 E. B. Birdwell, on the Posey Saline of Anderson County, about 8 miles to the southwest of Boggy Creek, is rigging up. Pure Oil Co.'s No. 1 Jackson, Bethel Dome, Anderson County, is drilling broken lime at 5,760 feet.

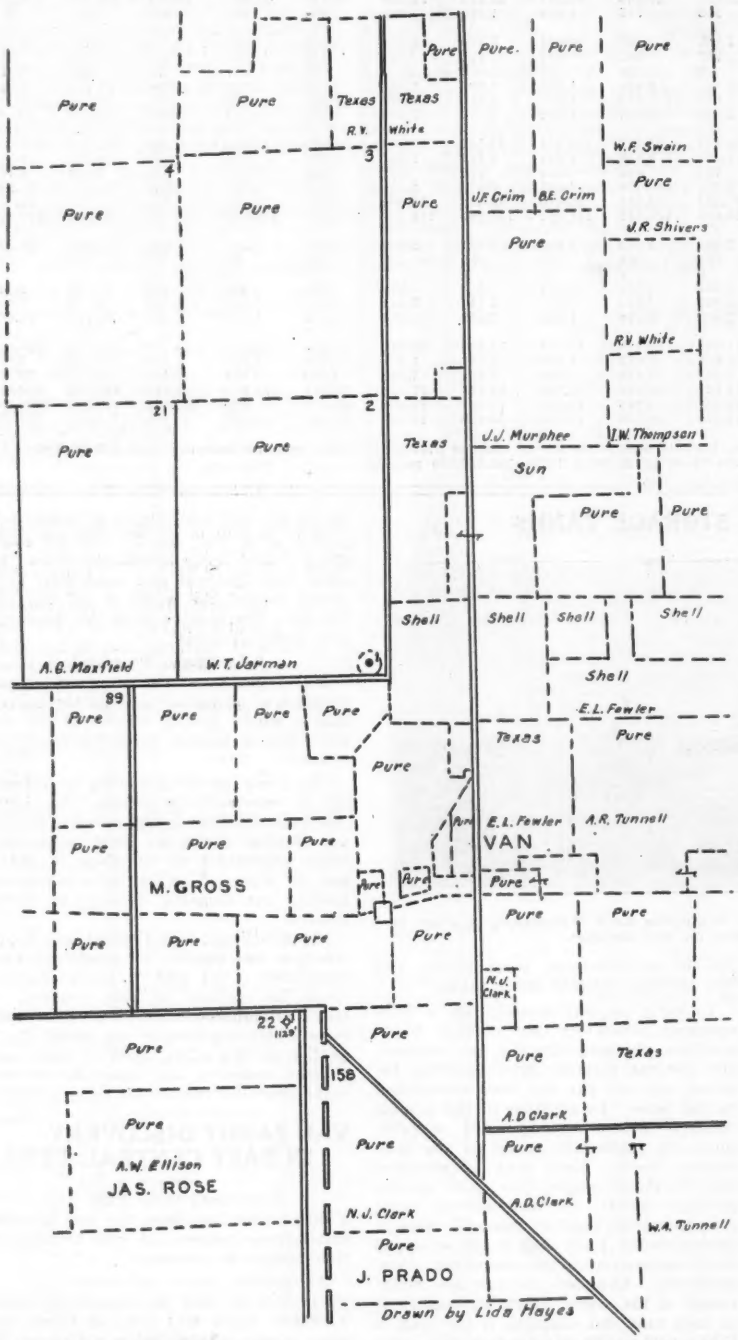
In Falls County, Gruver and associates' No. 1 Westbrook has been shut down after testing salt water at 1,270 feet. Killiam & Phillips' No. 4 Jones, also Falls County, is drilling lime at 1,508 feet.

Haley & Young's No. 1 Knight, Freestone County, twisted off while drilling plug at 4,806 feet and is fishing drill pipe.

In Rusk County, Magnolia Petroleum Co.'s No. 1 Duran, J. Lollar Survey, is drilling hard lime and shale at 3,555 feet.

Daily average production of the division for the week ending October 19 was:

	Bbls.
Boggy Creek	3,383
Cedar Creek	90
Currie	433
Hill County	36
Mexia	5,098
Minerva	600
Nigger Creek	260
Powell	6,998
Richland	360
Thrall	35
Van	1,250
Wortham	1,045
Total	19,588
Week ending October 12	18,294
Increase	1,294



Map showing location of Pure Oil Co.'s No. 1 Jarman, Van Zandt County, Texas, and lease ownership in the vicinity of the well. Due to this Woodbine sand discovery, East Central Texas is again a center of interest.

NEW DISTRIBUTION SYSTEM

HOUSTON, Tex., Oct. 21.—The Southwest Distributing Co., a subsidiary of the United Gas Co., Houston, has recently added eight Texas cities to the places in which it distributes natural gas. The past week the company completed laying its distribution system and started serving gas at Runge, Karnes County.

The other cities in which gas systems have just been completed and service started are: Foresville, Wilson County; Poth, Wilson County; Falls City, Karnes City and Kenedy, Karnes County, and Nordheim and Yorktown, DeWitt County.

NATURAL GAS COMPANIES REQUIRE RATES BASED ON SOUND PRINCIPLES

By Thomas R. Weymouth
President, Oklahoma Natural Gas Corp.*

In the early days gas was considered to be an obstacle in the oil operations and worth little or nothing. No market had been developed for it and the knowledge of its use was extremely limited. Consequently, vast quantities were permitted to blow to waste into the air and was permanently lost. When finally markets began to appear, the gas itself was not placed on a value basis comparable with other fuels, but was regarded as a by-product for which any price in the neighborhood of zero was deemed to be sufficient. This led to the establishment of rates as ridiculous in form as they were in magnitude. In many instances, the consumer was charged a flat sum per year for all the gas he might wish to consume, while in other cases the rates were a small sum per month per appliance.

These practices eventually succeeded in dissipating the surplus gas supplies, and in order to meet the demands of consumers it became necessary to seek additional fields, and this gave rise to the search and drilling for gas itself, as it was found that the gas produced as an incident to oil production was not in sufficient volume to be depended upon. Thus to meet the constantly increasing demand of consumers, the natural gas utility must ever be extending into new fields and drilling up the fields it is already operating. The steady withdrawal of gas from the fields causes a gradual decline in the rock pressure and a corresponding dimunition in the productive capacity of the new wells drilled, with the result that the cost per 1,000,000 feet to produce the gas mounts higher and higher.

Raw Material Limited

This feature of the natural gas industry is to be contrasted with the manufacturing process in the manufactured gas industry or the generating plant of the electric industry wherein the cost of the commodity distributed remains fairly constant, or even is susceptible of reduction by virtue of improvements in the process of manufacture or decline in the price of coal or oil.

In this respect the natural gas industry is unique and different from any of the other utilities due to its dependence upon a basic material, the supply of which is restricted to comparatively narrow limits and which can never be replaced by any known substitute. For this reason the natural gas industry as such is one of definitely limited life and, at least as far as the production system is concerned, it is necessary to amortize its cost within the estimated life of the wells irrespective of the actual life of the physical property involved in it. A large part of this property of course can be reclaimed when the field is exhausted and moved to new locations and there used again. Thus most large natural gas systems depend for their supply not on one or two fields only but on many, as in the company with which the writer is associated there are over 30 separate and distinct fields from which it draws its supply.

All distribution plants should be built with the thought that sooner or later they will be converted to the use of manufactured gas. This is the division of a natural gas utility which is not necessarily of limited life and consequently even though the cost of construction may be increased by designing the plant for the ultimate distribution of manufactured gas, money will be saved in the long run by so doing, for with the largely expanding uses for all gases, and the education of the people to the use of natural gas for house heating, it is impossible to believe that ultimately any but the smallest towns will be without gas and they will all continue to use it for heating, thus demanding plants comparable in size with those now necessary for the natural gas service they are receiving.

It has already been noted that in the early days of the natural gas industry the value of this incomparable fuel was lightly regarded and the prices asked for it were scarcely worth mentioning. It was but natural, therefore, that no effort was made to put into effect logical rate forms which would serve to allocate the charges for the various classes and quantities of service in accordance with the costs to produce and deliver them. Our electrical brethren were wiser in their generation and now we have the unusual spectacle of public service commissions approving sound rate forms in the electric utility field and denying to gas utilities the same form of rates based upon identical principles, and compelling them to make charges which are not only unjust and inequitable alike to the utility and to its customers, but which are also incapable in many cases of producing a revenue which will pay a proper return, no matter how high the rates may be fixed.

Logical Rate Demanded

When rates for natural gas were low—say from 20 to 30 cents per 1,000 for domestic consumption—any increase in the rate was accompanied by a smaller proportional decrease in the consumption so that the gross revenue rose very gradually. With further rate increases a point was reached beyond which any increase produced a larger proportionate decline in consumption with a reduction in the gross revenue per consumer. If the total revenue of a company is not sufficient to pay an adequate return when this point is reached it is useless to attempt to improve matters by any flat rate increase as this will drive off business, and some other device must be adopted. This has given rise to many attempts to camouflage the service charge and the result has been a great variety of rates, the effect of which is to imitate with a greater or less degree of success the results which would be achieved by a scientific rate if it were not forbidden by the discriminatory and silly laws in some of our states.

Until something of this sort is done by some of the natural gas companies now operating, they cannot hope to earn the revenues to which they are entitled. As has already been pointed out, almost all natural gas companies face an inevitable increase in the unit cost of supplying

*Before American Gas Association, Atlantic City, N. J., October 14-16.

their service and in order to stretch out the period of their existence as natural gas purveyors to as long a period as possible, they should make every effort to get a logical rate form in effect. Already some of the state commissions are beginning to abandon their illogical position in this matter and there is hope that before long it will be possible to put into effect rates which bear some relation to the cost of the service.

OKLAHOMA NATURAL GASOLINE ADVANCES

(Continued from Page 36)

general revision downward in refinery gasoline prices and also tank wagon and service station prices is assured unless the Mid-Continent market is aided with export purchases. The domestic demand will show a seasonal decline from now until early March. Most refiners expect to store part of their output during this period and this policy, it is contended, can be carried out without disturbing prices providing the excess stocks now in the tanks of refiners are absorbed by export outlets.

Crude Situation

Back of the gasoline situation which has just been outlined is the crude oil market. Those who believe that the California crude oil price reductions will be reflected in the posted schedules for Mid-Continent crude oils at present are in a minority. The proration agreement which has been worked out for the new fields of Oklahoma and which is explained elsewhere in this issue was conceived for the purpose of avoiding the condition which was responsible for the California price decline.

If the plan is carried out as now authorized starting November 1 there will not be excess crude oil above the requirements of pipe line companies and the normal demand of Oklahoma refineries. The demand for high gravity Mid-Continent crude oils is expanding and this trend will continue over the remainder of the year when additional plant capacity will be in operation in the Middle West.

So far as California gasoline prices are concerned the crude oil price reduction which became effective Monday has been reflected in shipments to the East Coast for several weeks and it is doubtful if further reductions will be made until it is apparent that the overproduction of California crude oil is to continue indefinitely.

Gasoline and Naphtha

The margin between the low and high prices in U. S. Motor sales has not changed. Most of the larger refiners continue to quote 7¾ cents to the jobber trade with the bulk of the sales at this price coming from two or three companies. Other spot sales to jobbers are being made as low as 6¾ cents with resale material available at 6⅝ cents.

There was no new export buying in the high gravity grades over the past week although inquiries were reported. On a basis of the present export prices at the Gulf Coast the 375 endpoint material should bring 8 cents North Texas; 390 endpoint, 7¾ cents; 400 endpoint, 7½ cents, and U. S. Motor gasoline, 6½ cents. Some contract material in the high gravity grades is moving to the coast on this basis. The spot buying early in the month, however, was made at prices from one-fourth to one-half cent under these prices for the grades above U. S. Motor gasoline.

Naphtha sellers report an improved demand for their products. It is claimed that winter blending business is now under way and the blenders are buying additional quantities of all grades for use in blending high gravity, low initial motor fuels.

Kerosene and Distillate

Kerosene prices are unchanged. Many refiners are selling the 41-43 water white grade direct to the trade at 5 and 5¼ cents with some material available at 4¾ cents. The demand is fair and there has been no disposition on the part of Oklahoma refiners during the past week to push the sale of the product with price concessions.

The distillate demand continues strong with 4 cents the low price on the better grades. Warm weather in the northern states has caused some of the jobbers to hold up shipments both on contracts and prompt shipments. Several buyers state that refiners who were out of the spot market early in the month are now offering furnace oils for immediate shipment and shipment over November.

Fuel Oil and Gas Oil

Fuel oils appeared to be scheduled for another general advance last week. Several of the refiners, including one of the largest sellers in Oklahoma, advanced prices. The lead of the Oklahoma refiners was not followed by refiners in other areas and the first of the week the price range of a week ago was in effect. Prices on some of the higher gravity grades in Oklahoma are largely nominal, due to the fact that these grades are not consistently offered by refiners.

The 28-30 and 30-32 grades are bringing premium prices due to the fact that gas oil is scarce at a low of 3 cents. The high gravity fuel oil grades are bringing from $1.10 to $1.25 per barrel. A light gas oil has a ready market at 3⅛ to 3⅜ cents.

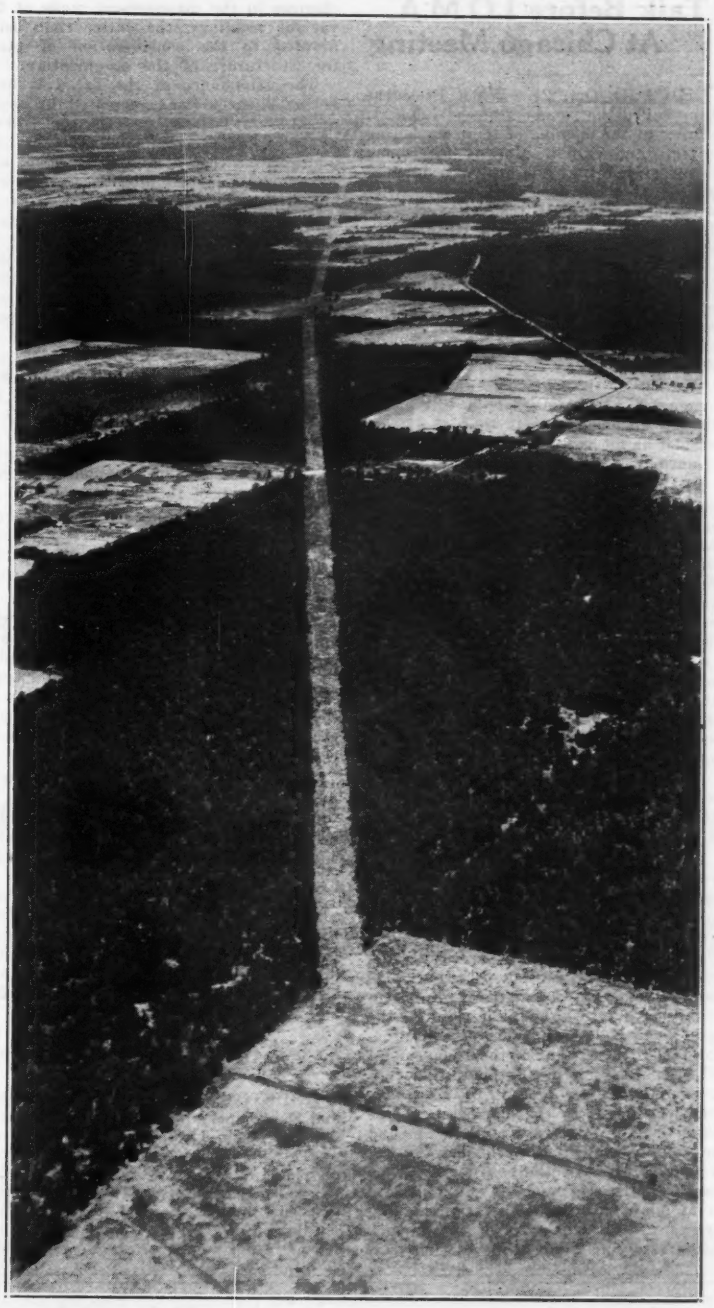
Natural Gasoline

Although there has not been any sensational advance in natural gasolines as a result of the steady buying, the price trend had been upward. Most of the manufacturers, due to the weak refinery market, feel that it is better to keep their output moving rather than advance their prices to the point where the demand might be curtailed.

The heavy buying has given the few manufacturers who store natural gasoline the opportunity to reduce their inventories. This empty storage will aid the market later when it is probable that demand will slacken.

The first of the week sales of Grade A and AA were being made at 6¾ and 6⅞ cents with 7 cents the asking price of at least two companies. The B and BB grades were scarce at 6⅝ and 6¾ cents. Sales of Grade C at 6½ cents were reported.

OIL TRUNK PIPE LINE RIGHT OF WAY



Picture taken by the Fairchild Aerial Survey, Inc., Dallas, Tex., showing clearing made and ready for the stringing of pipe for one of the main trunk lines out of West Texas.

Late Fields

(Continued from Page 48)

Dunnigan and Shell's No. 1 Davidson, located in the southern part of Willis Survey, Taylor County, started swabbing and flowed 170 bbls. in 30 minutes after being shut down for several days for storage. This flow was an accumulated head but the well looks good for 400 bbls. daily as it now stands.

Big Gray Oil Co.'s No. 1 Saunders, located W half NW Section 40, Block 3, I.&G.N., Gray County, made 250 bbls., swabbing 12 hours and cleaning out 12 hours; top pay 2,985 feet, total depth 3,110 feet.

OKLAHOMA

The Texas Company's No. 1, NE cor. NW, Section 14-9-6, Seminole County, made 303 bbls. in 12 hours from the Wilcox sand at 4,199-4,226 feet, after a 20-quart shot. The size of this well is a surprise as it is between the old Searight and Seminole City Pools.

Carter Oil Co.'s No. 2 Rogers, NW cor. SW SE, Section 2-8-5, Seminole County, swabbed 510 bbls. from the Wilcox sand at 4,219-25 feet. It extends the producing area one-fourth mile to the north.

Prairie Oil & Gas Co.'s No. 1 Palmer, C NW SW, Section 29-13-12, Okmulgee County, made 405 bbls. from the Dutcher sand at 2,344-66 feet. This is the largest well completed in the county for some time. Same company's No. 8 Laster, SW cor. NE, Section 19-6-4, Pottawatomie County, found the Viola at 3,635 feet, drilling in it at 3,542 feet. It swabbed 200 bbls. in 13 hours.

In the Oklahoma City Pool the production is down, mostly due to the new wells being shut in for the 30-day period. The production on October 22, was 72,950 bbls. from 19 wells. The Mid-Kansas Oil & Gas Co. and others' No. 1 Browning, SW cor. NW, Section 18-11-2w, is showing gas at a total depth of 6,548 feet. It is the most northeast test in the pool. Casing will be landed and cemented before a production test is made. The production by companies was as follows on October 22:

Company, farm—	Bbls.
Coline, Olds	4,565
Cromwell, Trosper	5,256
Hall & Briscoe, Childs	7,442
I. T. I. O., No. 2 A. Bodine	3,340
I. T. I. O., No. 1 S. Bodine	542
I. T. I. O., B. Anderson	(*)
I. T. I. O., No. 1 Button	4,347
I. T. I. O., No. 2 Button	(*)
I. T. I. O., Fuzzell	14,775
I. T. I. O., Henning	511
I. T. I. O., Johnson	183
I. T. I. O., fee	1,340
I. T. I. O., Trosper	1,881
I. T. I. O., Watters	D.D.
Mid-Kansas, No. 1 Fortson	2,328
Mid-Kansas, No. 2 Fortson	2,340
Mid-Kansas, No. 3 Fortson	(*)
Prairie, Hiddleston	4,565
Shell, Petty	8,510
Sinclair, Stamper	3,480
Sinclair, No. 2 Stamper	1,725
Sinclair, Kinter	155
W. Franklin, Lowery	5,664
Total	72,950

*Shut in.

Prairie Oil & Gas Co.'s No. 1 Sudik, C NE NE, Section 8-10-2w, Cleveland County, is the deepest drilling well in the State at this time. It was drilling at 7,310 feet on October 22 report, with nothing showing.

Magnolia Petroleum Co. and Ramsey Petroleum Co. have made a new location and the cellar dug for a wildcat test, No. 1 B. Johnson, NE cor. SW, Section 35-13-3w, Oklahoma County.

Shell Petroleum Corp.'s No. 2 Petty, SW cor. NE Section 30-11-2w, is drilling at 6,697 feet with 6,000 feet of water in the hole on October 22.

Production in the East Earlsboro Pool, which is being prorated 50 per cent until November 1, was 18,011 bbls. on the gauge of October 22. Gauges by companies and leases were as follows:

Company and farm—	Wells	Bbls.
Amerada:		
Sullivan	2	1,510
Barnsdall:		
Noble	1	73

(Continued on next Page)

Gilliam	1	47
Burke-Gries:		
Fixico	1	1,205
Carter:		
Wrightsman	1	90
Gypsy:		
Noble	2	775
Payne	6	3,907
Magnolia:		
A. Anderson	8	3,395
D. W. Anderson	3	1,026
Moore	2	64
Minnehoma:		
Noe	1	1,234
Prairie:		
Baker	5	975
Calkins	2	1,540
Raitman	3	1,375
Wisener	1	230
Sinclair:		
Muller	1	565
Total	41	18,011

Shell Petroleum Corp.'s No. 1 Story, SE cor. SW Section 30-19-4w, Logan County, in the Marshall Pool, made an initial production of 2,044 bbls. from the Wilcox sand at 5,910-56 feet. It has been pinched to 1,871 bbls. on the gauge of October 21, under the 20 per cent proration order.

The State Line Pool, which is half in Oklahoma and half in Kansas, sometimes called the Caldwell Pool, made 1,727 bbls. on October 21. The gauge by companies and leases was as follows:

Company and farm—	Bbls.
Amerada:	
Clark	562
Gypsy:	
Gibson	Off
Enderud	1,075
Williams	90
Total	1,727

LUBRITE CORPORATION TO EXPAND ALL FACILITIES

ST. LOUIS, Mo., Oct. 21.—The Lubrite Refining Corp. has been organized as the result of a purchase of a controlling interest in the Lubrite Refining Co. by the Vacuum Oil Co. The new corporation has taken over all the properties formerly belonging to the Lubrite Refining Co. including a refinery in East St. Louis and marketing properties centering in this city.

The new corporation will continue to market the Lubrite branded products and will also market the Vacuum products through its stations and dealers. It is understood that both the refinery and market facilities will be expanded in this territory.

The same officers will continue to manage the Lubrite business. W. W. Strickler is chairman of the board, H. T. Ashton, president, and W. H. Ware, vice president.

MID-KANSAS BUYS BIG BLOCK FOR $5,000,000

The Mid-Kansas Oil & Gas Co. in the past week closed a deal for the purchase of the remainder of the Ramsey Petroleum Co.'s oil acreage in the Nicoma Park district, Oklahoma City Field, on which there is one well, No. 1 David Trosper, good for 250 bbls. The Mid-Kansas company already owned every alternate 80 acres in the block so that its purchase included 5,100 acres, giving it sole ownership in the 10,200-acre block which lies in Township 12-2w, Oklahoma County.

The purchase price is said to have been $2,000,000 in cash and $3,000,000 out of oil produced on the property.

COLON WELLS TESTED

NEW YORK, Oct. 21.—Colon Development Co., Ltd., a subsidiary of the Colon Oil Corp., has completed its main storage tank farm at Casigua in the Tarra Field in Venezuela sufficiently to permit of field production tests.

Three wells have been opened up for testing, and in the week ended October 12 produced 25,545 bbls. The oil is being produced for the combined purpose of testing the wells and developing a stock of oil against completion of the pipe line and pumping facilities now under construction. This line will be completed early in 1930, probably some time in January.

Hilpp and Maguire Talk Before I.O.M.A. At Chicago Meeting

CHICAGO, Oct. 21.—When President Hilpp called the members of the I.O.M.A. to order at the opening of their marketing congress and exhibit Monday afternoon, it was stated that the program for the first day had purposely been made brief partly on account of the celebration of "Light's Golden Jubilee" in Grant Park across from the Stevens Hotel, which he felt members would wish to attend. Another reason was that the exhibitors had been in many cases delayed and would be permitted to break the rule of closing their exhibits during the meetings. The address of welcome was made by Frank F. Harris, of the Chicago Association of Commerce, who said that in talking to oil men his position was that of a rank outsider as he had never driven or owned an auto.

President Hilpp asked C. L. Maguire, chairman of the board, to address the members. Mr. Maguire said the past year had been one of new associations and adjustments of relations through mergers and purchases and the outlook was that this condition would be continued for at least the greater part of the next year. The oil industry, he stated, was becoming a number of large groups, each of which, no matter what their relations to the other large companies might be, looked with more or less antagonism on the independent oil industry. He has faith in the independent oil man to believe that it would result in the independent industry becoming more closely knit together with greater co-operation among its members.

President Hilpp followed with an address reviewing the growth of the industry, predicting that the future of the independent oil industry would be brighter and its influence more widely felt as they learned the necessity and desirability of close co-operation. He was followed by C. Y. Hinchey, executive secretary, who explained that the past year had been one of consolidation and readjustment of the Independent Oil Men's Association but that the management was now ready to go ahead with work vital to the members. These plans include highway advertising and the publication of a periodical similar to that printed for the convention. The board of trustees met on Sunday and on Monday morning. There were meetings of the directors and of the various committees, including those on lubricating and marketing, also a meeting of the exhibitors' committee There were no changes in the management made at the various meetings, the entire time being devoted to the consideration of plans for the future of the organization.

The attendance at the I.O.M.A. marketing congress was increased by many arrivals on Tuesday and the registration by noon had exceeded 200. The featured address was that of Floyd A. Allen, vice president, General Motors Corp., who stated that one of the greatest problems that faced his industry was better fuel. The research laboratories of both the automobile and the oil industries he said were working on this problem and some time in the future their work would bear results which might make the future gasoline twice as efficient as that used today. Of the necessity for research and preparedness he stated that his company was planning and plotting the future for at least four years ahead not only as to the kind of automobile but how many of them they would sell. He paid a tribute to the filling station attendants in discussing courtesy in business.

Sturges Harmon, director of advertising, spoke on membership requirements in which he pictured the organization with relation to its membership and what was required of the members.

At the afternoon session H. B. Floyd, patent attorney for the association, told the members of the position of their plan to register the name "red hat" as a trade mark for gasoline and the opposition of the Standard Oil Co. of Indiana and others. He assured them of success in time but admitted delay.

B. H. Fell, vice president, Independent Petroleum Association, spoke on a tariff on crude giving the views of himself and his organization that it would contribute to the stability of the crude situation.

The concluding address of the day was made by Jay Trexler, on the "Red Hat" brand. Mr. Trexler is the manager of the "Red Hat" department of lubricating oils. He reviewed the progress made and the possibilities for the sale of branded motor oils and greases.

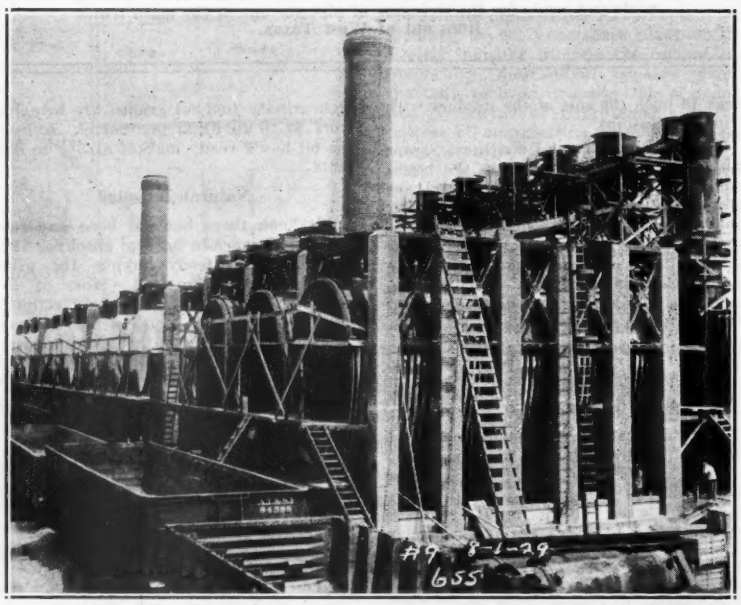
ANNUAL TOUR OF INSPECTION

HOUSTON, Tex., Oct. 22.—Division and field superintendents of this division of The Texas Company made their annual tour of inspection of the various districts as guests of the company. In the party were W. V. Bowles, manager of production for the Gulf Coast division; F. C. Sealey, assistant manager; Payne Pannell, division superintendent, and the following district superintendents: H. G. Shook, West Columbia; E. A. Barker, Boling; L. T. Tighe, Mexia; F. L. Huggus, Seguin; O. W. Biggs, Humble; L. E. Bales, Hull, and M. Westbrook, Sour Lake.

The tour winds up a contest among the various districts to determine the best appearing and operated leases in the division. At the close of the trip, each district superintendent turned in a sealed vote stating which lease he thought, judging from what was seen on the trip of inspection, presented the best appearance. The votes will be tabulated by the Houston office and the gang pusher and two pumpers on the winning lease will be awarded watches.

The contest is an annual event conducted by the company in each division to stimulate interest among field men to keep up the various leases both in appearance and in efficiency of operation.

COKING STILLS FOR WEST TEXAS CRUDE



Batteries of coking stills under construction at the Gulf Refining Co.'s Sweetwater, Tex., plant. Note the construction of the fire boxes.

STATE OF TEXAS CLAIMS HALF OIL BONUS MONEY

AUSTIN, Tex., Oct. 22.—It is estimated owners of land in Texas which formerly belonged to the public school fund will have to pay back to the State approximately $10,000,000 if the decision rendered by the Appellate Court here is affairmed.

The decision follows one made 18 months ago that if the public school fund actually owned the oil and other minerals in the land sold, the State was entitled to at least one-half the bonus money received for a lease.

To determine this question, the attorney general filed suit against Empire Gas & Fuel Co. and J. H. Tippett of San Angelo to recover one-half the $16.800 which the company had paid Tippett for a 480-acre lease on the edge of Yates Pool in Pecos County.

The Appellate Court held that "both the surface owner of the state land and the oil company were liable to the state public school fund for one-half of the bonus paid for oil and gas rights and one-half of the rental over 10 cents an acre, paid the State as stipulated in an oil and gas lease on land classified as mineral."

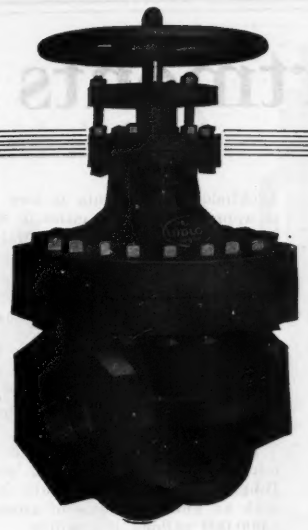
Attorneys who represented Tippett contended that the State should collect it from the oil company. The court apparently did not pass on the question as to who should pay the State the bonus, but merely held that the State had a half interest in the bonus and that either the oil company or the landowner, or both, were responsible for the State's half interest.

There are approximately 1,000,000 acres of mineral land in Texas which were purchased from the State, upon which a bonus has been paid, or upon which more than 10 cents an acre has been paid for rentals.

GULF COAST MARKETS SHOW SLIGHT CHANGE

HOUSTON, Tex., Oct. 22.—Slight change was indicated in Gulf Coast refinery markets at the opening of the week. Pale and red oils continued easy from some sources with shading of prices still reported although sellers generally were moving a fair volume of business at their old posted quotations. That most of the cutting of prices which has been done in the past three weeks was done in a flurry of alarm by a few sellers who were anxious to unload at any price is the opinion of refiners who now believe the flurry is about past and that concessions will soon disappear. Fuel oil and gas oil continued fairly firm in price although there still is no great volume of business as sellers seem unwilling to make concessions especially as these products are available from only a few sources.

Gasolines at Coastal refineries for tank car movement continued to move fairly well although prices were not entirely satisfactory. Sellers are getting as high as 8¾ cents for local demand but for outside sales are getting only 8¼ cents.



IRON BODY
BRONZE MOUNTED
ALL IRON
CAST IRON
FOR
REFINERY
PIPELINE
DRILLING

Let Their Record Speak—

If you keep records on your valves you know that Ludlow Valves are dependable and that they give extra long service even under the hardest usage, with attention and maintenance nil.

LUDLOW
VALVES
ALL SIZES AND PRESSURES
HAND, CYLINDER, ELECTRIC OPERATED

DISTRIBUTED BY
MID-CONTINENT SUPPLY CO.
Houston Fort Worth

THE LUDLOW VALVE MFG. CO.
TROY, NEW YORK
KANSAS CITY CHICAGO NEW YORK BOSTON PITTSBURGH

TANK CARS OF ALL TYPES

"PRESSED STEEL'S" McKees Rocks plant is equipped with the most modern machinery for manufacturing tanks and underframes and also has complete facilities for producing truck frames, bolsters, wheels, springs, forgings, castings, etc., under direction of engineers and shop supervisors who have had many years experience in building tank cars and making car parts, thus saving extra profit that otherwise goes to outside part manufacturers.

When in the market let us have your inquiry. We will be glad to submit proposition on our design or on customer's design of car.

PRESSED STEEL CAR COMPANY

NEW YORK PITTSBURGH CHICAGO ST. LOUIS ST. PAUL

Of Interest to Sales Departments

More Attention to Be Given to Fuel Oil Specifications

WASHINGTON, D. C., Oct. 19.—"Fuel oil burners have received much more attention during the past few years than the fuel which they were designed to burn," says Harry E. Steidle, of the United States Bureau of Standards. Mr. Stiedle makes extended reference to the use of fuel oil for domestic and industrial purposes, the increase of which, during recent years he regards as phenomenal. This has resulted from the use of more efficient oil burning equipment.

"Oils were designated almost entirely by their density or heaviness, commonly referred to as 'gravity,'" says Mr. Steidle. "This, however, is not a real criterion of the qualities of a fuel oil. For one kind of oil, a certain gravity might give entire satisfaction, while another of the same gravity might be unusable in the same burner.

"Manufacturers and distributors of oil burning equipment have encountered numerous complaints which investigation proved to be attributable to the use of oil unsuited to the burner on hand. Color was sometimes referred to in connection with gravity, but this added nothing but confusion to the purchaser's dilemma of securing satisfactory fuel oil.

"The situation was somewhat embarrassing for the burner manufacturers and the oil refiners likewise sensed the necessity of assuring satisfactory and efficient service to prospective users of oil as a heating medium..

Conduct Investigation

"Under the auspices of the Trade Standards Division, Bureau of Standards, and at the request of the American Oil Burner Association, a general conference was held, which was attended by all branches of the fuel oil industry including refiners, distributors, consumers, and manufacturers of oil burning equipment. A tentative standard prepared by that association, with the co-operation of the American Society for Testing Materials and the American Petroleum Institute, covering six grades of oil and very carefully considered, and after certain changes, to make it consistent with the best commercial practice, it was approved by the conference and recommended for general adoption as a commercial standard.

"To ascertain the attitude of those not represented at the general conference, the specifications were mimeographed and mailed to a large list of refiners, distributors, users and burner manufacturers with a request for their approval of the standards as their guide for production, sale, or use.

"The standard grades met with splendid response—the list of acceptors embracing practically all the oil burner manufacturers, many oil refiners, distributors and users. The commercial standard grades thus became effective as of July 15, 1929, as the basis for every day trade in the industry and the specification will shortly be available in printed form as a government publication entitled 'Domestic and Industrial Fuel Oils —Commercial Standards CS 12-29.'

"It may be said that a satisfactory fuel is one which may be conveniently handled and stored, which will ignite readily without being a fire hazard, which will atomize freely, and burn completely without clogging the jets of the burner.

Standard Specifications

"These requirements are covered in the standard specifications by limitations of the following characteristics:

"Flashpoint—minimum flash point is usually controlled by law to govern fire hazard while the maximum flash point insures ease of ignition.

"Viscosity—a measure of the resistance of oil to flow and the degree to which atomization may be secured.

"Distillation—the 10 per cent point is an index of the ease of ignition while the 90 per cent point and the endpoint govern the completeness of combustion.

"Pour point—the lowest temperature at which an oil will flow under prescribed conditions, included in order that oil may cause no difficulty in handling or in use at the lowest temperature to which it may be subjected.

"Water and sediment—the impurities that reduce the efficiency of fuel oil, the latter of which may cause serious trouble by clogging the burner.

"Under the commercial standards six grades with numerical designations have been established that will cover the needs of practically all domestic and industrial equipment. Burner manufacturers will designate the grade adopted to their particular equipment and will recommend it for greatest efficiency. The consumer, following the manufacturer's instructions, can secure the most satisfactory oil merely by purchasing according to number. Distributors of fuel oil will find their problems simplified and oil refiners may proceed with confidence knowing there will be a steady demand for the several well defined grades."

NEW TYPE REFRIGERATOR TO AID KEROSENE DEMAND

A new use for kerosene is assured in the development of an oil-burning refrigerator which is now being introduced in rural sections in several states. The refrigerator is similar in design to the gas burning refrigerators which are now offering competition to electric refrigerators in some of the larger cities where gas is available.

The new refrigerator is designed especially to serve rural sections where electricty and gas are not available. The refrigerator is operated on the absorption principle. The refrigerant is heated by two small oil burners forming a gas. This gas is cooled as it passes through a condenser. The cooling process liquefies the gas which collects in the evaporator and as it evaporates it carries away with it the heat from the food compartment.

The two burners are mounted on a slide and are visible only when drawn out for lighting. The only attention required is the daily filling and lighting of the burners. About a pint of kerosene is required for one operation. This heats the refrigerant in about 90 minutes. The refrigeration operation then continues for 24 to 36 hours. A connection with a running water system is necessary for the circulation of water during the period of heating. The water flows through the coil in the refrigerator and may be utilized for any household purpose. The stove is being marketed by the Perfection Stove Co. of Cleveland, O.

COMPLETE TERMINALS

The Texas Company of California has completed an expenditure of approximately $7,000,000 in Australia for docks and terminal facilities including a plant for the manufacture of cans. The company is rapidly expanding its marketing facilities in Australia and expects in the near future to have outlets in all the principal consuming centers. The products are supplied from the California refineries of the company.

The company is also preparing to build several oil terminals at points in China. The company already has market outlets in that country.

Richfield Market Outlets Expanding In Eastern States

NEW YORK, Oct. 19.—Richfield Oil Corp. of New York, which is less than a year old, will take its place among the principal marketing units in the Eastern area by the end of 1930 with annual sales of approximately 500,000,000 gallons of gasoline, according to expansion plans formulated by the Richfield Oil Co. of California, the parent company, a statement by C. M. Fuller, president of the latter concern, indicates.

This expansion program will give the eastern marketing subsidiary of Richfield Oil Co. of California total gallonage of 500,000,000 gallons annually within the next two years, Mr. Fuller indicated, when he said that he expected the eastern company to equal the sales of the parent company in California "by the end of 1930."

"Our eastern marketing subsidiary," said Mr. Fuller, "now has storage capacity for more than 50,000,000 gallons of gasoline and other refined products at deep water terminals in Baltimore, Providence, Schenectady, Bayonne and Newtown Creek, Brooklyn. In addition to these waterfront terminals we have a number of small bulk distributing depots located at inland points. We have sufficient space to enlarge the storage capacity of several of the terminals through the erection of additional steel storage tanks as our eastern distribution increases. Prsent plans call for a normal, constructive expansion of operations in the East through the acquisition of new retail stations and the development of additional distribution of gasoline and lubricating oils through jobbers and independently owned and operated filling stations and garages."

List of Terminals

Following is a list of the principal terminals: Bulk terminal at Curtiss Bay, Baltimore, with storage capacity for 500,000 bbls. of refined products. The terminal is located on a 40-acre tract and is nearing completion. Sufficient space has been reserved for the construction of additional steel tankage as needed.

Bulk terminal at Bayonne, N. J., (formerly used by Municipal Service Corp.) with steel storage for 21,000,000 gallons of gasoline and other products. The terminal is located on the waterfront and will serve New York State and contiguius territory. The company also has a 1,000,000-gallon bulk storage plant at Newtown Creek, Brooklyn, to serve its Brooklyn and Long Island distributors.

Bulk terminal at Providence, N. Y., is now nearing completion. This terminal will have initial storage capacity for 250,000 bbls. of gasoline and other products. The company also has a small bulk terminal on the railroad at Providence, acquired from the Lamson Oil Co.

Richfield Oil Corp. of New York is planning the establishment of a chain of bulk stations on the New York State Barge Canal, for serving upper New York State and parts of New England. The first station in this chain, at Schenectady, is now close to completion. It is not only located durectly on the barge canal, but is on two railroads, the New York Central and the Delaware & Hudson. It has storage capacity of 110,000 bbls. Several other terminals will be added to the chain early next year.

The eastern marketing subsidiary of Richfield of California is now operating in approximately 140 cities in New York, New Hampshire, Vermont, Maine, Pennsylvania, New Jersey, Massachusetts, Connecticut and Maryland, and is in direct competition with all of the leading integrated companies in the East.

A number of retail stations have been acquired by Richfield of New York, and further acquisitions are looked for before the end of the year. The principal acquisitions which have been announced thus far are as follows:

Heath Oil Co., operating a bulk terminal and 10 retail filling stations at Binghampton, N. Y. Heath is credited with an annual volume of approximately 2,000,000 gallons of gasoline.

Peerless Oil Co., operating 167 retail stations in Scranton, Pa., Philadelphia, Pa., Camden, N. J., Jersey City, N. J., and Newark, N. J. Peerless has a bulk terminal in each of these five cities, and is credited with annual sales volume in excess of 20,000,000 gallons of gasoline.

Cleary Service Stations, operating a chain of 19 retail stations and one bulk terminal at Rochester, N. Y.

In addition, Richfield Oil Corp. of New York has taken over the Lamson Oil Co., operating a number of stations in Providence, R. I., and vicinity, and has also purchased a number of smaller chains.

MORE VOLATILITY TREND IN GASOLINE CONTINUES

The motor gasoline marketed in this country during the summer just past was slightly more volatile than that sold a year ago, according to the United States Bureau of Mines, Department of Commerce, which conducted during the summer its twentieth semiannual motor gasoline survey. This increase in volatility is shown by a general lowering of the average distillation range of about 2 degrees Fahrenheit.

As in the past there is a distinct difference between "summer" and "winter" gasoline; that marketed this summer was less volatile than that sold during the winter. This difference is large at the lower end of the distillation range, but practically negligible at the 50 per cent point and above.

The cities in which the motor gasoline survey was conducted were New York, Boston, Washington, Pittsburgh, Chicago, New Orleans, St. Louis, Omaha, Denver, San Francisco, Laramie, Wyoming, and Bartlesville, Okla. These cities were selected as representing widely scattered districts, thus giving the opportunity to make the survey representative of the nation at large.

In comparison with last summer, gasoline samples from Boston, New York, Washington, Pittsburgh, and San Francisco show decided improvement in volatility whereas those from Laramie show a decided decrease in volatility.

More detailed information is given in Serial 2,959, by E. C. Lane, S. S. Taylor, and C. J. Wilhelm, copies of which may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

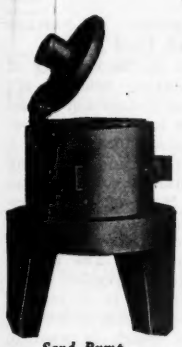
SHELL ENTERS ALBANY

ALBANY, N. Y., Oct. 19.—The Shell Eastern Oil Corp. will join the list of 10 major oil companies which now have bulk stations on the New York State canal at the Albany port. The Shell company, which is rapidly expanding its marketing facilities in the eastern states had made application for the construction of temporary docks on the Rennsselear side of the Port of Albany.

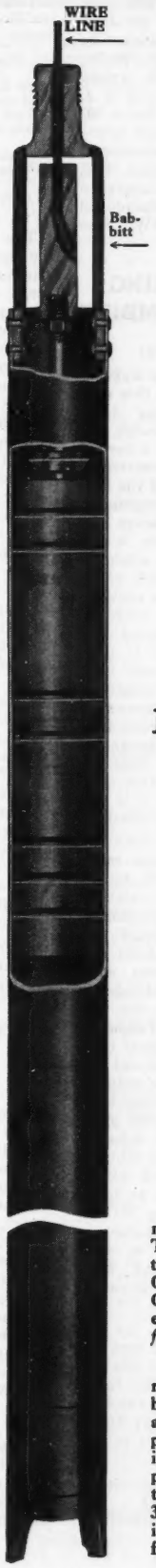
The Shell company, it is understood, expects to expend $500,000 on its terminal facilities here.

MILLER COMBINATION BAILER & SAND PUMP—*Speed With Certainty*

. . . . . A



Sand Pump
Bottom illustrated in position in the pump.



bottom

Bailer Bottom
will speed up production in cavy holes by time saved in picking up cuttings.

for every

need

Chisel Bottom
will save the expense of running tools and its chisel shape prevents sticking in tightly packed sands.

Star Bottom
used for cutting the sand loose and preferred by some to the Chisel Bottom.

With the Miller Combination Bailer and Sand Pump you have the choice of four type bottoms —SAND PUMP bottom, used when cleaning out with tools, CHISEL and STAR bottoms, used with tractor, winch and pulling machines when tools are not used, and BAILER bottom, used in drilling as a common bailer. The Miller Bailer and Sand Pump — *the combination tool with a bottom for every job.*

The barrel of the Miller is made of National Seamless Tubing, all steel construction throughout with Sivyer Steel Castings—*built to stand abuse.* Constructed for economical operation; *designed for greater efficiency.*

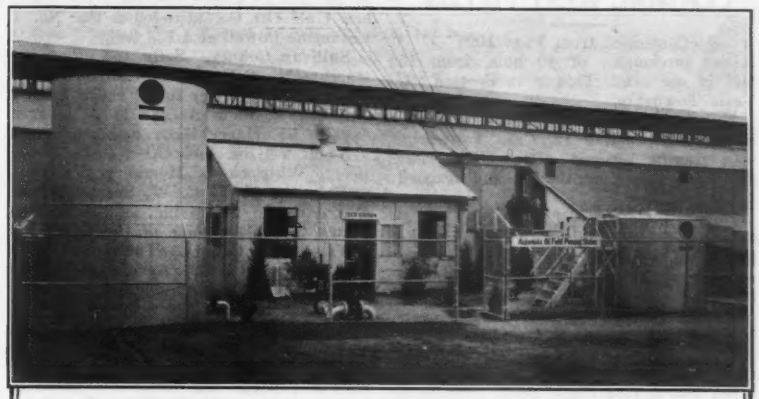
In the MILLER the sand line runs through the bail and is babbitted to a sand line socket, with an eye bolt connection to the plunger. This construction eliminates use of a rod, making it possible to run as long pump as the job requires. Made in 2½, 3, 3½, 4, 4¼, 5, 5½, 7 and 9-inch sizes, with 20, 25 and 30-foot lengths.

Patented
March 1, 1921—No. 1370340
January 20, 1925—No. 1523604

MILLER

Combination Bailer & Pump Co.

General Offices and Plant
Sapulpa, Oklahoma



Automatic Electrically Controlled Pumping Station

WE ARE FOR PROGRESS

The above interesting exhibit, shown at the International Petroleum Exposition, was arranged by the Scientific & Technical Committee in the interest of Economic Transportation of Oil.

We co-operated with the committee heartily, our interests being parallel, namely: The Economic Handling and Storing of Oil.

The idea of the Automatic Controlled Pumping Station was just another progressive step in saving and making money for the oil industry.

Use our Vapor-Pressure Tanks; They Will Make You Money.

"Alone in Quality"

MALONEY TANK MFG. CO.
Tulsa, Okla., U. S. A.
Distributers at All Principal Petroleum Points

Maloney A.P.I. Bolted Steel Tanks conform to A.P.I. dimensional standards, and carry the official A.P.I. monogram.

AMERICAN

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

AMERICAN

MALONEY

ALONE

CENTRAL WEST FIELDS

(Continued from Page 102)

initial production of 40 bbls. from 15 feet in the sand. This is in Section 21, Veale Township.

Dubois County.—The William Meissner test in Section 16, Cass Township, was finally plugged after being shut down for many months. It had reached 1,320 feet.

Fountain County.—The Bowman Oil & Gas Co., of Pittsburgh, Pa., is taking leases northeast of Covington, and expects to drill on the William Coffing farm.

Gibson County.—The Hope Engineering Co. will start in a few days on the 10-inch main to Evansville from the Gibson County gas fields, for the Indiana Oil & Gas Corp. Shell Petroleum Corp. is starting two wells on the George Allen lease, east of Fransciso in Columbia Township. No. 2 is being drilled by Nelson Brothers and is an offset to No. 2 Oynett. No. 3 is being drilled by R. J. Rendall and is an offset to No. 1 Corn. The S. M. Cantrell well, Section 2, Columbia Township, was plugged at a total depth of 1,695 feet. The United Oil Corp. is fishing the casing at 1,597 feet in its well on the Duncan heirs' lease. Mann & Huber, drillers, are trying to shut off the water at 1,282 feet in the Tom Flenner well in Barton Township. The Wesley Ice well, in Washington Township, drilled for the Indiana Oil & Gas Corp. by R. J. Randall, was drilled in and will probably be a producer. The No. 2 William Volkman, Section 32, Center Township, is producing about 1,500,000 feet of gas. The drillers were trying to shut off water in No. 3 Volkman at 1,699 feet.

Knox County.—The Shell Petroleum Corp. got an initial production of 8 bbls. from 1,723½ feet in its No. 1 John Emmison, in Survey 11, Johnson Township.

Lagrange County.—The rig which has been drilling on the Ivo Chrystler farm has been moved to the Clair Shoup place, where it will start immediately on a test.

Monroe County.—The Petroleum Exploration Co. is down more than 400 feet in their test in southern Monroe or northern Lawrence County, close to the fault line. They are reported to have struck a flow of gas already. This is probably the well on the R. Howell farm.

Perry County.—The Packard Oil Co. got a dry hole at 795 feet in its test on the George Beaver lease, W. S. M. Hughes is drilling in the Frank J. Delaise test, 2 miles east of Bristow in Section 26, Clark Township, and will test the McCloskey sand. Glenn & Knollman are preparing to drill another test on the Glenn farm, in Section 18, Tobin Township. The first well, in wildcat territory, was abandoned at 525 feet, without any showing.

Pike County.—The Indiana Oil & Gas Corp. recently acquired two new wells on the James Lindy and one on the Neal Lindy farm, all in the Mount Olympus district. Rischer and others abandoned their P. Crow test in Washington Township at a depth of 1,137 feet. Harry Rischer is moving his tools to a wildcat location on the Frank DeMotto farm, 2 miles southwest of Otwell, in Jefferson Township, where he will drill for C. C. Taliaferro. Nelson Brothers completed a producer on the R. A. Hyneman farm, in Clay Township. Roy Wilson also brought in a producer for the Ilpava Oil Co. on the Henry Lindy lease, same township. Vern Burdon completed No. 1 John McAtee at 1,348 feet. This well, in Location 16, Clay Township, is producing about 1,000,000 feet of gas, and has been taken over by C. C. Taliaferro. Robertson and others are down 928 feet in the No. 1 Vernor Preston, Section 30, Washington Township, and are awaiting casing. The drill is down 217 feet in the No. 1 W. H. Shawhan, drilled by the Bement Gas Co., in Madison Township.

Spencer County.—The No. 1 Fred A. Butler, in Section 1, Ohio Township, was completed a dry hole at 1,150 feet. In Section 2, of the same township, Ellis & Young got a dry hole at 1,500 feet in the No. 1 Charles Hoffman. The Eastern Gulf Oil Co. abandoned the No. 1 Catherine Powell at 1,123 feet.

Sullivan County.—Seitz and others are starting No. 2 G. W. Buff in Section 4, Gill Township. They found a dry hole at 860 feet in their Arthur Hunt test in Section 31. Harry Knox and others got a 5-bbl. well on their Alex Raley lease. Scott, Whitlock & Morris got a good well in the No. 4 C. W. Scott, but the shot damaged the casing, making it necessary to replace some of the joints.

Vandeburg County.—The John Wills well in Section 32, Armstrong Township, is reported abandoned at 1,585 feet, after being idle several months.

Vigo County.—The Ohio Oil Co. is starting a well on the Miles lease in Section 31, Prairie Creek Township, to offset No. 7 Riggs. The latter is a producer just finished by the Sioso Oil Co. No. 8 Riggs, which will be a deep test, is still drilling. Hamill & Dill are down about 500 feet in the No. 1 R. Prevo, in Section 32, same township. Pearce and others are about to drill in their No. 4 F. F. Shattuck, also in Section 32.

ILLINOIS

The Dupo Field in Sugar Loaf Township, St. Clair County, in the western part of Illinois, south and a little west of East St. Louis, remains active, but the town lots are pretty well covered with wells. Some acreage property remains to be tested outside of several farms that now have wells. There is no doubt other pools will be found along the east side of the Mississippi River at comparatively shallow depths and in the Trenton Rock formation. No drilling to speak of has been done to the north of East St. Louis and between there and Alton, while to the south lies the Waterloo Field, in Monroe County, and production some years ago was found in Randolph County. This hunt for oil and gas along the east side of the Mississippi River may lead to drilling for oil in Iowa, which it is thought by some will in time no doubt develop oil and gas-producing areas

In the Dupo Field, of St. Clair County, the Ohio Oil Co.'s No. 15 on the Matilda Dyroff, SE, Section 28, Sugar Loaf Township, produced an initial of 65 bbls. from the Trenton from 476-526 feet. Toney Foley drilled a dry hole on the Charles Hoffstetter, Section 23, from 1,073 to 1,165 feet. In the town lot development in Section 21, same township, the St. Clair County Oil Co.'s No. 1 Hall & Weihl lot, produced an initial of 70 bbls. from 475-540 feet. C. C. Bundy, trustee, drilled in a 25-bbl. initial producer on the C. Baker lot, from 508-49 feet. Carney and others' No. 1 on the Baptist Church lot, produced but 8 bbls. from 513-38 feet. Buyer and others' No. 1 H. E. Adams lot, was dry from 541-90 feet. L. G. Blackman and others' No. 1 Frazier lot, had an initial of 25 bbls. from 510-47 feet. Maxie & Spencer's No. 1 E. Proffer lot, showed 80 bbls. initial from 480-523 feet. Same parties' No. 1 F. Phelps lot, 40 bbls. initial from 503-43 feet. Ellis and others of Owensboro, Ky., have a couple of wells due for completion in the Dupo Field. Close to 30 strings are still working in the shallow area.

One-Sixth Oil Co.'s No. 4 well, 200 feet from the south line and 600 feet from the east line of the W. E. Evans, SW, Section 25, Prairie Township, Crawford County, produced 15 bbls. the first 24 hours from a depth of 992 feet. Ohio Oil and Dinsmoor Oil Co.'s No. 18 on the E. E. Lindsay, Section 27, Martin Township, same county, is a pressure well, for the purpose of testing what pressure will do in the way of increasing production. In Southwest Township, same county, the Dark Bend Oil Co.'s second test in the southwest corner of the A. W. Mann, NE, Section 24, produced an initial of 25 bbls. from the Kirkwood sand at a total depth of 1,548 feet. Phipps, Blosser and others' No. 2 C. E. Davis farm, SE, Section 24, same township, is reported dry.

In Lawrence County, Dennison Township, Blosser and others' test in the northwest corner of the Charles Gillespie, SW, Section 1, produced an initial of 70 bbls. from a stray sand from 412-31 feet. Marsh Oil Co. abandoned No. 13 Jane Jones, Section 29, same township. In Petty Township, the Ohio Oil Co. pulled out and abandoned No. 1 A. R. Applegate, SE, Section 12; Nos. 1 and 3 J. B. Smith, SE, Section 11, and No. 1 M. C. Coder, NE, Section 26, same township. Associated Producers Co. abandoued Nos. 1 and 17 on the J. F. Snyder, NE, Section 25, same township. In Lawrence Township, the Ohio Oil Co. abandoned No. 3 Dianna McCormick, SW, Section 10.

METHOD OF RECOVERING SLUDGE FROM PLUMBITE

(Continued from Page 46)

sion tank is lead lined, and is approximately 3 feet by 7 feet. With this conversion tank we are recovering 1,000 pounds of the lead sulphide sludge per batch. Hydrochloric acid, from a former conversion, is pumped into the conversion tank to accelerate the reaction of the lead sulphide and chlorine at the beginning. Enough water to make a good heavy suspension of lead sulphide in water, is also added. The conversion tank is equipped with a mechanical agitator, which vigorously agitates the contents of the tank.

During the agitation of the contents, a stream of chlorine is introduced into the tank through a coil which is positioned at the bottom of the tank, until approximately one-third of a pound of chlorine is present for every pound of lead sulphide. The time of conversion at our plant usually takes three hours for 1,000 pounds of lead sulphide, from the time of introduction of the chlorine until complete conversion. However, it is possible to speed this reaction up considerably, if it is desired.

After the conversion, the solid materials contained in the tank will consist principally of: litharge (PbO), elementary sulphur (S), and a small amount of lead chloride ($PbCl_2$). The liquid will be a dilute solution of hydrochloric acid (HCl) containing in suspension some colloidal sulphur, and lead chloride in solution. After a short settle, the contents of the conversion tank will separate into three distinct layers; the upper layer being a mass of flocculent elemental sulphur, the middle layer a dilute solution of hydrochloric acid, and the bottom layer a mixture of finely divided solid materials, consisting principally of litharge, some sulphur and traces of lead chloride. The conversion tank is equipped with a manifold having draw-off cocks at intervals, which permits of drawing off the hydrochloric acid at the various levels. Thus, practically all the acid is withdrawn from the conversion tank, after which the solid material left is water washed to free it of acid.

Conversion Theory

The conversion theory is: The lead sulphide is oxidized to litharge and free sulphur by the addition of chlorine to an aqueous suspension of the lead sulphide. The chemistry of the process may be explained thus:

$$H_2O + Cl_2 \rightarrow HOCl + HCl$$
$$HOCl + PbS \rightarrow PbO + S + HCl$$
$$PbO + 2Na_2OH \rightarrow Na_2PbO_2 + H_2O$$
$$2RSH + Na_2PbO_2 \rightarrow (RS)_2Pb + 2NaOH$$
$$(RS)_2Pb + S \rightarrow PbS + 2RS$$
$$Na_2PbO_2 + H_2S \rightarrow PbS + 2NaOH$$

After being freed of hydrochloric acid, the litharge, admixed with a small amount of sulphur, is ready to be used in making up doctor solution. The caustic soda, which was recovered from the settling operation in connection with the spent plumbite sludge, can be used to dissolve the recovered litharge to make a superior treating solution. There is usually enough sulphur entrained within the litharge to complete the reaction of the doctor solution with the products being treated. Thus, it is obvious, that practically all of the spent chemicals in spent plumbite can be restored to their original usefulness and reclaimed again and again.

The average cost of recovering 1,000 pounds of litharge and the value of the products recovered at our plant are as follows:

320 lbs. Chlorine at 6c per lb	$ 19.20
Steam, labor and power	7.50
Operating cost	$ 26.70
Value of Recovered Products	
1,000 lbs. litharge at 9.25 cents lb.	$ 92.50
2,000 lbs. caustic soda at 2.9 cents lb.	58.00
140 lbs. sulphur at 2.75 cents lb.	3.85
3 bbls. light oil at $2 bbl.	6.00
Total value	$160.35
Cost of recovery	26.70
Savings per 1,000 pounds	$133.65

Equipment Used

The equipment used in the recovery of the spent doctor solution consists of: The principal tank or conversion chamber, a small pump for handling the products, a hydrochloric acid storage tank, a caustic soda storage tank, and a settling tank for the spent plumbite solution from the treating units. Most of the equipment used in our installation was already in the plant which, of course, made the installation cost very low. The accompanying sketch is of the conversion chamber, 3 feet by 7 feet, set in a vertical position. It is equipped with a 5-horsepower electric motor which is used to turn a shaft having three sets of impellers to maintain the lead sulphide in suspension with the liquid within the tank.

The chlorine enters the bottom of the tank through an expansion coil, and bubbles up through the lead sulphide suspension from a perforated coil placed on the bottom of the conversion tank. Baffles are attached to the sides of the tank as an aid in thoroughly mixing the suspension of the sulphide. A manifold for removing the separate layers of recovered products is welded to the side of the tank. A gauge glass enables the operator to see the color changes that take place within the conversion tank, as these changes indicate the progress of the reactions. Water and air connections are also tied into the tank, the water for forming the suspension of lead sulphide and the air for speedily emptying the contents of the conversion tank.

Patents are pending on the F-C Process and are assigned to the Plumbite Recovery Co. of McKinney, Tex.

GULF COAST FIELDS

(Continued from Page 56)

been a suspicious area, but recently Vacuum Oil Co. shot it with the seismograph and after favorable findings went in with a torsion balance checking the results of the seismograph. After this another check by the seismograph proved almost conclusively the existence of the dome. Vacuum has been successful in obtaining virtually all the acreage, which includes the property of Oscar Zenor, the Virginia Sugar Plantations and about a couple of dozen small tracts.

Among abandonments of the week were two deep wildcats, one the Pure Oil Co.'s No. 1 Liberty Investment Co. in the Yoakum Survey on the northeast edge of the Moss Bluff Dome, and the other Shell Petroleum Corp.'s No. 1 Heisig in the T.&N.O. Survey No. 86, western Jefferson County. The latter was on what had been checked by the Shell Petroleum Corp. as a possible dome, or rather the instruments indicated an unusual subsurface condition.

W. H. HOOKER DEAD

Willard H. Hooker, age 74 years, a retired oil producer, died recently at his home in Dunkirk, N. Y. Mr. Hooker resided in Limestone, N. Y., for many years and operated out of that town in the Bradford and Allegany Fields where he also was well known as a drilling contractor. The funeral and burial were held in Limestone, N. Y.

TEXAS P. L. OKLA. STATEMENT

The Texas Pipe Line Co. of Oklahoma reports runs in September as 779,039 bbls., daily average 25,968 bbls.; shipments 1,251,480 bbls., daily average 41,716 bbls.; stocks 7,969,471 bbls.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 59)

Gulf Ref. Co.'s No. 5 Hunter, 990 ft. W, 330 ft. S, NE cor., Sec. 17-19-14 ..... W.O.S.R; 2,442 ft.
Ohio Oil Co.'s No. 4 Hunter, 330 ft. N and W, SE cor. NW NE, Sec. 17-19-14 ..... Derrick.
Ohio Oil Co.'s No. 6 Hunter, 330 ft. S, 330 ft. W, NE cor. NW NE, Sec. 17-19-14 ..... Cmtd. 6⅝-in. 2,390 ft; T.D. 2,435 ft.
Ray-Dawes Drlg. Co.'s No. 3-A Hunter, Sec. 9-19-14 ..... Cmtd. 6⅝-in. 2,424 ft.
Ray-Dawes Drlg. Co.'s No. 4-A Hunter, Sec. 9-19-14 .... Derrick.
Standard Oil Co.'s No. 8 Hunter, Sec. 17-19-14 ..... Location.
Standard Oil Co.'s No. 3 Henderson, 220 ft. N, 330 ft. W, SE cor. SW SE, Sec. 7-19-14 ..... Derrick.
Standard Oil Co.'s No. 9 Hunter, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 8-19-14 ..... Cmtd. 6⅝-in. 2,395 ft; arranging to test; T.D. 2,435 ft.
The Texas Co.'s No. 3 Hunter, 990 ft. W, 330 ft. N, SE cor., Sec. 8-19-14 ..... Flowing 190 bbls. S.W. small amount of oil on air; T.D. 2,448 ft.
The Texas Co.'s No. 4 Hunter, 990 ft. N, 330 ft. W, SE cor. Sec. 8-19-14 ..... Cmtd. 6⅝-in. 2,400 ft; bailing to test 18 ft. broken sand; T.D. 2,436 ft.
The Texas Co.'s No. 5 Hunter, 990 ft. N, 272 ft. W, SE cor. Sec. 9-19-14 ..... Began drlg. Oct. 10; cmtd. 10-in. 96 ft; 6-in. 2,400 ft.

CADDO PARISH—OIL CITY

Arrow Synd.'s No. 1 Pender, 200 ft. N, 440 ft. E, SW cor., NW NW, Sec. 11-20-15 ..... Top Nacatoch 769 ft; drlg. 1,165 ft.
W. D. Chew's No. 5 fee, Sec. 33-21-16 ..... Cmtd. 4½-in. 2,265 ft; T.D. 2,330 ft.
Gulf Ref. Co.'s No. 20-A Levee Board 1,570 ft. S, 268 ft. W, NE cor. NW, Sec. 24-21-16 ..... Derrick.
Magnolia Pet. Co.'s No. 19 Doan-Thigpen, 330 ft. N, 990 ft. W, SE cor. Sec. 6-20-15 ..... Rigging up.
Magnolia Pet. Co.'s No. 18 Dillon, 165 ft. S, 500 feet E, NW cor., Sec. 24-21-15 ..... O.W.D.D. completed Jan. 24, 1929; 15 bbls. oil and 150 S. W. 3,730 ft.; comp. Aug. 21, 1929 dry and abd. 4,866 ft; perforated csg. 1,750 ft; arranging to test.
Shreveport Oil Corp.'s No. 1 Guy, NW NE, Sec. 32-21-15.. Tested S.W. with show of oil; S.D. for orders; T.D. 2,300 ft.
Simplex Oil Co.'s No. 7 Hunsicker, 670 ft. W, 400 ft. S, NE cor. SE, Sec. 15-20-15 ..... Rigging up.
The Texas Co.'s No. 72 Levee Board, 725 ft. N, 210 ft. E, SW cor. SE, Sec. 27-21-16 ..... Rigging up.
J. C. Tippett's No. 1 Levee Board, 1,120 ft. W, 200 ft. N, SE cor. SW, Sec. 26-21-16 ..... Rigging up.

CADDO PARISH—LEWIS

Snake Creek Oil Co.'s No. 1 Levee Board, SW NW, Sec. 9-21-16 ..... Tested dry with show of oil and S.W.; S.D.; T.D. 2,328 ft.

CLAIBORNE PARISH HOMER

Oakes et als' No. 1 Richardson, NE SE, Sec. 19-21-7 .... S.D. 1,112 ft; in litigation.

LASALLE PARISH—URANIA

Air Lift Oil Co.'s No. 8 Urania, Sec. 18-10-2e ..... Cmtd. 6-in. 1,510 ft; 7-ft. sand; T.D. 1,517 ft.
Ark. Fuel Co.'s No. 5-F Urania, Sec. 24-10-1e, Tullos Townsite ..... Location.
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e ..... S.D. 1,570 ft.
Philp et als' No. 1 Urania, SE cor. NE NE, Sec. 1-10-1e.. Tested 500,000 ft. gas and sanded up; C.O.; setting liner to test; T.D. 736 ft.
Randall et als' No. 3 Urania, Sec. 1-10-1e ..... S.D. 675 ft.
Trio Oil Co.'s No. 2 Urania, NE cor. SW SW NW, Sec. 19-10-1e ..... Rigging up.

MOREHOUSE PARISH

Bahan & Bahan's No. 1 Feazel, 330 ft. S, 280 ft. W, NE cor., Sec. 3-20-4 ..... Derrick.
J. S. Herkness' No. 10 Bowles, 1,914 ft. N, 528 ft. W, SE cor. SW, Sec. 17-20-5 ..... Cmtd. 6-in. 2,176 ft.
J. S. Herkness' No. 11 Bowles, 4,620 ft. S, 1,980 ft. E, NW cor. Sec. 18-20-5 ..... Began drlg. Oct. 14; drlg. 100 ft.
J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor. Sec. 18-20-5 ..... Location.
Magnolia Pet. Co.'s No. 5 U. S., 620 ft. N, 330 ft. W, SE cor. NE SW, Sec. 29-21-5 ..... Estimated 5,000,000 ft. gas; drill stem stuck; sidetracking; T.D. 2,363 ft.
Southern Carbon Co.'s No. 13 Tensas, 660, ft. S, 660 ft. E, NW cor., Sec. 2-20-4 ..... S.D. 1,580 ft.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 ..... Location.
United Carbon Co.'s No. 3 Patton, 660 ft. W, 660 ft. S, NE cor. SE, Sec. 2-20-4 ..... Location.

OUACHITA PARISH

Amalgamated Carbon Co.'s No. 2 Cole, 742 ft. E, 703 ft. S, NW cor., Sec. 42-19-4 ..... Rigging up.
Amalgamated Carbon Co.'s No. 3 Cole, 1,616 ft. E, 731 ft. S, NW cor., Sec. 42-19-4 ..... Drlg. gumbo 816 ft.
Ark.-La. P. L. Co.'s No. 3 Rea & Green, 1,526 ft. W, 1,350 ft. S, NE cor., Sec. 11, in Sec. 32-18-4 ..... Drlg. 1,740 ft.
Chauvin Gas Co.'s No. 1 W. Va., 593 ft. E, 147 ft. S, NE cor., Sec. 46, in Sec. 8-18-4 ..... Cmtd. 6-in. 2,128 ft.
Greenwood Prod. Co.'s No. 3 Phillips, 660 ft. N, 198 ft. W, SE cor., Sec. 18-19-4 ..... Location.
Hope Producing Co.'s No. 1 Fairbanks, 660 ft. N, 624 ft. E, SW cor. SE, Sec. 25-20-4 ..... Began drlg. Oct. 11; cmtd. 12½-in. 156 ft; drlg. 700 ft.
Hope Producing Co.'s No. 2 Fairbanks, 1,876 ft. E, 628 ft. N, SW cor. SE, Sec. 25-20-4 ..... Location.
Hope Producing Co.'s No. 3 Fairbanks, 1,876 ft. E, 628 ft. S, NW cor. NE, Sec. 36-20-4 ..... Location.
Imperial O. & G. Products Co.'s No. 10 Stubbs, 2,403 ft. W, 395 ft. N, common cor. Secs. 12, 13 and 45, in Sec. 12-19-13 ..... Cmtd. 6-in. 2,139 ft; drlg. 2,194 ft.
G. E. Jordan's No. 1 Anding, NW NE, Sec. 18-18-5 ..... Plugged back to 2,284 ft; T.D. 2,480 ft.
Jordan Drlg. Co.'s No. 5 Cole, 680 ft. S, 602 ft. W, common cor. Secs. 1, 2 and 35, in Sec. 35-18-3 ..... Drlg. gumbo 1,440 ft.
Mack & Pipes' No. 2 Slagle-Johnson, 446 ft. S, 649 ft. W, northwesterly cor., Sec. 47, in Sec. 48-18-4 ..... Location.
Mack & Pipes' No. 3 Slagle-Johnson, 642 ft. S, 530 ft. W, northeasterly cor., Sec. 47, in Sec. 47-18-4 ..... Cmtd. 6-in. 2,123 ft.
Magnolia Pet. Co.'s No. 2 fee 401, 660 ft. S, 660 ft. E, NW cor., Sec. 2-18-3 ..... Derrick.
Magnolia Pet. Co.'s No. 3 fee 404, 660 ft. N, 660 ft. E, SW cor., Sec. 11-19-5 ..... Cmtd. 8⅛-in. 2,270 ft; T.D. 2,274 ft.
Magnolia Pet. Co.'s No. 4 U. S., Sec. 20-19-5; reported completed July 31, in error ..... Tested 1,000,000 ft. gas at 515 lbs. rock pressure; set liner 2,528 ft; bailed dry; plugged back to 2,200 ft.; est. 500,000 ft. gas 2,990 ft; W.O; T.D. 2,543 ft.
Palmer Corp.'s No. 1 Cagle, 1,964 ft. S, 476 ft. E, NW cor., Sec. 7-18-5 ..... Began drlg. Oct. 13; cmtd. 12½-in. 145 ft; drlg. 800 ft.
J. E. Sandridge, Jr.'s No. 1 W. E. Montgomery, 563 ft. N, 410 ft. E, SW cor., Sec. 18-18-5 ..... Drlg. 1,500 ft.
Southern Carbon Co.'s No. 54 fee, 660 ft. N, 674 ft. W, SE cor. NE, Sec. 13-19-4 ..... Fishing drill stem 2,385 ft.
Southern Carbon Co.'s No. 4 Phillips, 660 ft. S, 660 ft. E, NW cor., Sec. 3-19-4 ..... Rigging up.
Stubbs, trustee's No. 1 Linton Stubbs, 203 ft. E, 121 ft. S, Sec. 19-19-4 ..... Drlg. shale and boulders 1,935 ft
Trousdale & Wright's No. 1 Kate Cole, 296 ft. S, 47 ft. W, common cor. Secs. 3, 9 and 42 in Sec. 42-18-4 .... Cmtd. 8-in. 330 ft; drlg. 1,300 ft.
United Oil & Nat. Gas Products Co. of La.'s No. 5 Guthrie, 6,896 ft. N, 6,022 ft. W, cor. Secs. 49, 36, and 25, Sec. 49-20-5 ..... Derrick.
United Oil & Nat. Gas Products Co. of La.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 ..... Derrick.

RED RIVER PARISH

Joe Danciger et als' No. 1 Pickett, 6,621 ft. S, 2,623 ft. W, NE cor., Sec. 15-13-11, in Sec. 23-13-11 ..... C.O. 2,400 ft; T.D. 2,555 ft.
Root Refineries, Inc.'s No. 1 Home State & Savings Bank, 330 ft. N, 330 ft. W, C, Sec. 8-13-10 ..... Oil show 2,570 ft; drill stem test; S.W; cored sand showing gas 2,598 ft; S.D. 2,667 ft.
Triple Oil Co.'s No. 1 W. M. Pollock, Sec. 33-13-11 ..... Drlg. 2,340 ft.

RICHLAND PARISH

Ark.-La. P. L. Co.'s No 1 Chenault, 1,980 ft. W, NW, C, SE SE, Sec. 2-16-6 ..... Began drlg. Oct. 12; cmtd. 15½-in. 230 ft; drlg. 800 ft.
W. C. Feazel's No. 1 Brown, 2,300 ft. W, 1,760 ft. S, NE cor., Sec. 27-16-6 ..... Tested 500,000 ft. gas 2,450 ft; arranging to deepen.
W. C. Feazel's No. 2 Brown, 1,940 ft. W, 185 ft. N, SE cor. Sec. 22-16-6 ..... Drlg. gummy shale 2,155 ft.
Feazel, Bendel & Brown's No. 1 J. H. Hemler, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 23-16-6 ..... Cmtd. 6-in. 2,281 ft.
Hope Prod. Co.'s No. 1 J. H. Hemler, 660 ft. S, 660 ft. W, NE cor., Sec. 11-16-6 ..... Drlg. gummy shale 2,080 ft.
Hope Prod. Co.'s No. 1 L. R. Hemler, 600 ft. S, 495 ft. W, NE cor., Sec. 22-16-6 ..... Location.
Hope Prod. Co.'s No. 1 Thomason, 3,366 ft. W, 660 ft. S, NE cor., Sec. 11-16-6 ..... Drlg. shale and boulders 1,965 ft.
Magnolia Pet. Co.'s No. 2 Hatch, 130 ft. N, 660 ft. W, SE cor. NE SE, Sec. 2-15-5 ..... Tested 103 joints S.W. 2,700 ft; drlg 2,720 ft.
Magnolia Pet. Co.'s No. 4 C. M. Noble, 400 ft. S, 660 ft. W, NE cor. SE NE, Sec. 35-16-5 ..... Location.
Magnolia Pet. Co.'s No. 5 C. M. Noble, 600 ft. S, 600 ft. W, NE cor. NW, Sec. 36-16-5 ..... Rigging up.
M. L. Meredith's No. 1 Holdness, 1,980 ft. S, 990 ft. W, NE cor., Sec. 15-16-6 ..... Rigging up.
Northern La. Nat. Gas Co.'s No. 4 Boykin, Sec. 20-17-14.. Cmtd. 6-in. 2,299 ft; arranging to pump in clear water to kill offset crater; T.D. 2,398 ft.
Palmer Corp.'s No. 2 Earle, 1,980 ft. N, 1,320 ft. W, SE cor., Sec. 31-17-6 ..... Derrick.
Palmer Corp.'s No. 1 Eubanks, 1,100 ft. N, 350 ft. E, SW cor. SE NW, Sec. 26-17-6 ..... Fishing 4-in. slip; T.D. 2,304 ft.
Palmer Corp.'s No. 1 McCoy, Sec. 29-16-6 ..... Comp. June 10, 1927 by S. D. Hunter; 15,000,000 ft. gas; recmtd. 4½-in. 2,430 ft; T.D.
Palmer Corp.'s No. 4 Rhymes, 660 ft. S, 1,320 ft. W, NE cor. NW, Sec. 28-17-6 ..... Cored lime 2,896 ft.
Southern Carbon Co.'s No. 1 Binion & Sartor, 660 ft. N, 1,320 ft. E, SW cor. SE, Sec. 21-17-6 ..... Tested estimated 500,000 ft. gas 2,450 ft; arranging to deepen.
Southern Carbon Co.'s No. 1 S. R. Humble, 600 ft. N, 600 ft. W, SE cor., Sec. 26-16-6 ..... Location.
United Carbon Co.'s No. 1 Thornby, 660 ft. W, 650 ft. N, SE cor. NW NE, Sec. 12-16-6 ..... Drlg. 2,415 ft.
United Carbon Co.'s No. 1 Roberts, 1,650 ft. N, 600 ft. W, SE cor., Sec. 21-16-6 ..... Location.

SABINE PARISH—PLEASANT HILL

Bridges-Clark Oil Co.'s No. 2 Williams, 2,150 ft. W, 2,000 ft. S, NE cor., Sec. 33-10-12 ..... Drlg. 2,075 ft.
Magnolia Pet. Co.'s No. 4 E. E. Hall, 855 ft. N, 343 ft. W, SE cor. NW SW, Sec. 33-10-12 ..... Began drlg. Oct. 14; drlg. 189 ft.

UNION PARISH

Bahan & Bahan's No. 1 Bess, 47 ft. S, 64 ft. W, NE cor. NW, Sec. 11-20-3 ..... Location.
E. S. Hall's No. 2 Spencer, 317 ft. W, 132 ft. S, NE cor. NW SE, Sec. 2-20-3 ..... Began drlg. Oct. 14; drlg. 100 ft.
Industrial Gas Co.'s No. 1 Jenny, 2,629 ft. N, 657 ft. E, SW cor., Sec. 6-20-4 ..... Bailing 6-in. 2,075 ft; T.D.
Interstate Nat. Gas Co.'s No. 23 fee, 660 ft. S, 660 ft. E, NW cor. Sec. 33-20-3 ..... Began drlg. Oct. 14; cmtd. 12½-in. 170 ft.

WEBSTER PARISH—COTTON VALLEY

La. Oil Ref. Corp.'s No. 9 Gray, 1,980 ft. S, 660 ft. W, NE cor. NW, Sec. 29-21-10 ..... Drlg. 4,430 ft.
Magnolia Pet. Co.'s No. 1 McCook & Hibbler, C SW SW, Sec. 22-21-10 ..... Cored 9 ft. saturated sand 6,949-58 ft; swedging collapsed joint 8⅛-in. at 3,600 ft; to set 5⅝-in. for test.
Ohio Oil Co.'s No. 45 Bodcaw, 660 ft. N, 660 ft. W, SE cor. SW SW, Sec. 21-21-10 ..... Drlg. 3,900 ft.
Standard Oil Co.'s No. 3-D Bodcaw, 660 ft. N, 660 ft. E, SW cor. SE NE, Sec. 28-21-10 ..... Cmtd. 6⅝-in. 4,304 ft.

WEBSTER PARISH—SAREPTA AND SHONGALOO

J. W. Clark, trustee's No. 1 L. H. Wise, 1,980 ft. E, 660 ft. S, NW cor., Sec. 30-23-9 ..... W.O.S.R; 6 ft. sand; T.D. 2,754 ft.
Pat Hudson's No. 1 L. S. Gardner, 150 ft. E, 200 ft. S, NW cor. SW NE, Sec. 1-22-11 ..... Cmtd. 6-in. 2,734 ft.
F. E. Estes' No. 2 Pardee, 1,270 ft. W, 50 ft. S, NE cor. NW, Sec. 3-22-11 ..... Began drlg. Oct. 15; drlg.
Jacob Larkin, trustee's No. 2 Pardee Co., 1,120 ft. W, 200 ft. S, C, Sec. 3-22-11 ..... Location.
Magnolia Pet. Co.'s No. 1 C. O. Bailey, 100 ft. N, 660 ft. E, SW cor. NW NE, Sec. 29-23-9 ..... Plugged back to 2,761 ft.; T.D. 2,782 ft.
Magnolia Pet. Co.'s No. 1 N. T. Knight, 330 ft. S, 330 ft. E, NW cor. SE SE, Sec. 33-23-9 ..... Cmtd. 5⅜-in. 2,682 ft; T.D. 2,692 ft.
Magnolia Pet. Co.'s No. 2 Scroggins, 330 ft. S, 376 ft. E, NW cor. SW NW, Sec. 1-22-11 ..... Cmtd. 8⅛-in. 2,697 ft; T.D. 2,708 ft.
Sarepta Oil Co.'s No. 1 L. S. Gardner, 300 ft. S, 300 ft. W, C, Sec. 1-22-11 ..... Cored gray sand 2,681 ft.
Woodmansee et als' No. 1 Boyd, 200 ft. S, 200 ft. E, NW cor. SE SW, Sec. 3-22-11 ..... Derrick.

WINN PARISH—URANIA

Gardner, Hunter & Brown's No. 16 Harper, 330 ft. N, 400 ft. E, SW cor. NW NE, Sec. 26-10-1e ..... W.O.S.R; 1,495 ft.

ARKANSAS

NEVADA COUNTY

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 ..... S.D. for wtr; T.D. 2,821 ft.

MOUNT HOLLY

Houston Oil Co.'s No. 1-B Wilson, 150 ft. N, 150 ft. E, SW cor. SW NW, Sec. 25-15-18 ..... Tested S.W. 2,830-35 ft.; cored sand showing oil 2,872-83 ft.; coring 2,982 ft.

OUACHITA COUNTY—SMACKOVER

Ark. Nat Gas Corp.'s No. 2 Avera, 330 ft. S, 330 ft. E, NW cor. SE SW, Sec. 35-15-15 ..... Location.
B. F. Foster's No. 1 Murphy, SW cor. NE SW, Sec. 35-15-16 ..... Standing 400 ft. fluid; 30% S.W. 49 ft. broken sand 2,042 ft; W. O.S.R.
L. H. Hamilton's No. 1 Arnold & Doyle, SE SE, Sec. 23-15-16 ..... Standing 400 ft. in fluid; 23 ft. broken sand; T.D. 2,010 ft.
E. M. Jones' No. 2 H. Murphy, 200 ft. E, CWL, Lot 1, NE, Sec. 2-16-15 ..... Estimated 3,000,000 ft. gas, spray S.W. 2,035 ft; W.O. 2,042 ft.

Magna Prod. Co.'s No. 5-B McKenzie, Sec. 36-15-16 ..... Bailing to test 51 ft. broken sand; T.D. 2,006 ft.
Marine Oil Co.'s No. 7-A Hays, Sec. 4-16-15 ..... Cmtd. 6⅝-in. 2,342 ft; T.D. 2,349 ft.
Oil Field Corp.'s No. 10 McKenzie, 265 ft. E, 185 ft. N, SW cor, SE NE, Sec. 36-15-16 ..... Began drlg. Oct. 11; cmtd. 10-in. 50 ft; drlg. 550 ft.
Phillips Pet. Co.'s No. 4 Scott, 250 ft. S, 350 ft. W, NE cor. SW NE, Sec. 34-15-15 ..... Pumped 200 bbls. fluid, 60% S.W.; arranging to plug back 4 ft.; T.D. 2,024 ft.
Phillips Pet. Co.'s No. 3 Clayton, NE cor. NW NE, Sec. 34-15-15 ..... Began drlg. Oct. 11; cmtd. 10-in. 61 ft; drlg. 810 ft.
J. D. Reynolds' No. 2 fee, 150 ft. N, 150 ft. E, SW cor. SE SW, Sec. 27-15-15 ..... Cmtd. 6⅝-in. 2,020 ft; T.D. 2,043 ft.
Shell Pet. Corp.'s No. 5 Williams, 210 ft. S, 260 ft. W, NE cor. NW SE, Sec. 34-15-15 ..... W.O.S.R; 1,200 ft. fluid in hole; T.D. 1,971 ft.
Simms Oil Co.'s No. 3 E. Johnson, 265 ft. E, 300 ft. S, NW cor. NE SE, Sec. 34-15-15 ..... W.O.S.R. 100 ft. oil; 23 ft. broken sand; T.D. 1,986 ft.
Simms Oil Co.'s No. 4 Johnson, 330 ft. N, 85 ft. E, SW cor. NE SE, Sec. 34-15-15 ..... Began drlg. Oct. 10; cmtd. 12½-in 42 ft; seat covered; arranging to set third joint 12½-in; T.D. 380 ft.
Skelly Oil Co.'s No. 2 Langley, 250 ft. N, 250 ft. W, SE cor. NW SW, Sec. 35-15-15 ..... Derrick.
Skelly Oil Co.'s No. 4 Woods, 300 ft. E, 200 ft. N, SW cor. NE NE, Sec. 34-15-15 ..... Bailing to test 15-ft. sand; T.D. 2,029 ft.
Southern Prod. Co.'s No. 1-A Watts, SW cor. SW SE, Sec. 27-15-15 ..... Rig up.
Standard Oil Co.'s No. 13 Arnold, 200 ft. S, 200 ft. E, NW cor. NE NE, Sec. 26-15-16 ..... Location.
Standard Oil Co.'s No. 8 Powell, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 34-15-15 ..... Cmtd. 6⅝-in. 1,959 ft.
J. D. Wingfield's No. 1 Martin, SW cor., Sec. 26-15-15 .. Set 6⅝-in. 2,085 ft; corrected T. D. 2,110 ft.

OUACHITA COUNTY—STEPHENS

La. Oil Refining Corp.'s No. 1 Green, 330 ft. S, 330 ft. E, NW cor. Sec. 22-15-19 ..... Completed March 28, 1926; 100 bbls. 1,555 ft; S.D; repairing rig; 2,036 ft.
La. Oil Ref. Corp.'s No. 1 Haltom, Sec. 15-15-19 ..... Comp. Sept. 12, 1926; 20,000,000 ft. gas 1,554 ft.; arranging to deepen.

UNION COUNTY—CHAMPAGNOLLE

Magnolia Pet. Co.'s No. 1 Schmidt, 300 ft. N, 300 ft. W, SE cor. NW SW, Sec. 5-17-14 ..... Tested 15,000,000 ft. dry gas 2,708-15 ft; cmtd. 8-in. 2,708 ft; T.D. 2,715 ft; tested 2,200,000 ft. gas 2,715 ft; coring 2,735 ft.

UNION COUNTY—EL DORADO

J. P. Hawkins' No. 1 Goodwin, Sec. 3-17-15 ..... S.D. 2,575 ft; W.O.
Rice et als' No. 1 W. Raltey, 150 ft. S, 150 ft. E, NW cor. SW, Sec. 7-17-15 ..... Spudded July 18; cmtd. 10-in. at 92 ft.

UNION COUNTY—SMACKOVER

Ark. Fuel Oil Co.'s No. 5 Alphin, Sec. 11-16-16 ..... O.W.D.D.; perforated csg. 3,960-70 ft.; swabbed dry; filled up 40 ft. oil in hour, W. O.
E. L. Chapman's No. 2 Purifoy, Sec. 2-16-16 ..... Plug back to 2,316 ft; tested S.W. 2,350 ft; cmtd. bottom; drilled out cmt. 2,005-2,365 ft; fishing drill stem; T.D. 2,565 ft.
Foster et als' No. 1 J. V. Spohr, 330 ft. S, 330 ft. W, NE cor. SE SW, Sec. 35-15-16 ..... Rig up.
E. M. Jones' No. 1 H. Murphy, 211 ft. S, 211 ft. E, NW cor. Lot 3, NW, Sec. 2-16-15 ..... W.O.S.R; 90 ft. fluid in hole from 17 ft. broken sand; T.D. 1,981 ft.
Lion Oil Ref. Co.'s No. 1 James, CWL, Lot 2, NW, Sec. 6-16-15 ..... Cmtd. 6⅝-in. 1,942 ft; T.D. 1,950 ft.
Joe Marr's No. 2 Goodwin, 150 ft. E, 250 ft. N, SW cor., Sec. 3-16-16 ..... S.D. 2,470 ft.
Shell Pet. Co.'s No. 1 Carroll, 1,320 ft. W, 330 ft. N, SE cor. NE SW, Sec. 19-18-16 ..... Began drlg. Oct. 5; cmtd. 12½-in. 163 ft.; drlg 1,700 ft.

EAST TEXAS
PANOLA COUNTY

Ark.-La P. L. Co.'s No. 6 Louis Werner, B. C. Jordan Sur. ..... Began drlg. Oct. 14; cmtd. 10-in. 40 ft; drlg 475 ft; Nos. 1 to 5 drilled by Bethany O. & G. Co.
Eureka Nat. Gas Co.'s No. 1 Jeter, 300 ft. S, 300 ft. W, NE cor. John Womack Sur. ..... Drlg. hard shale 2,400 ft.
S. H. Gardner's No. 5 Brumble, 5,966 ft. E, 4,132 ft. S, NW cor. B. C. Jordan Sur. ..... S. D. for water; T.D. 1,000 ft.
S. H. Gardner's No. 4 Roquemore, 5,176 ft. E, 4,432 ft. S, NW cor. B. C. Jordan Sur. ..... Location.
Magnolia Pet. Co.'s No. 3 T. C. Adams, 550 ft. S, 280 ft. E, NW cor. Jas. Matthews Sur. ..... O.W.D.D; reset liner 2,766 ft; tested dry; pulling liner to deepen.
Magnolia Pet. Co.'s No. 5 G. C. Tiller, 1,114 ft. W, 303 ft. N, SE cor. Jane Thorpe Sur. ..... Rigging up.
Magnolia Pet. Co.'s No. 6 G. C. Tiller, 393 ft. S, 1,990 ft. E, NW cor. Jane Thorpe Sur. ..... Location.
Nat. Gas Prod. Co.'s No. 10 Roquemore, B. C. Jordan Sur. ..... Location.
Nat. Gas Prod. Co.'s No. 11 Roquemore, B. C. Jordan Sur. ..... Rigging up.
Nemours Corp.'s No. 5 A. C. Tiller, 300 ft S, 300 ft. W, NE cor. W. D. Matthews Sur. ..... Bailing to test; T.D. 2,336 ft.
The Texas Co.'s No. 7 G. W. Brumble, 3,415 ft. W, 330 ft. N, SE cor. E. F. Mitcheson Sur. ..... Drlg. chalk 1,456 ft.
The Texas Co.'s No. 8 G. W. Brumble, 1,085 ft. E, 330 ft. N, SW cor. John Womack Sur. ..... Derrick.
D. Thomason's No. 2 Tillery, 393 ft. N, 332 ft. E, SW cor. Jane Thorpe Sur. ..... Began drlg. Oct. 14.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 55)

DUVAL COUNTY

Simms Oil Co.'s No. 5 Dinn, Sec. 62, 500 ft. W line, 660 ft. S. line ..... Location.
National Oil Co.'s No. 2 Ball, Agua Poquita Sur., Blk. 3.. Rigging up.
Southern Oil Co.'s No. 1 Welder Ward, Sur. 215 ..... Drlg. 300 ft.

EDWARDS COUNTY

A. M. Griffith's No. 1 Wardlaw ..... Shut down 3,000 ft.

FAYETTE COUNTY

Muldoon Oil & Gas Co.'s No. 1 Kemp, M. Smith League .. Derrick.
W. J. Kelly's No. 1 Burke ..... Shut down 1,000 ft.

GOLIAD COUNTY

Compton Oil Co.'s No. 1 Fromme, Dexter Survey..... Rigging up.
Humble Oil & Refg. Co.'s No. 1-A Spangle ..... Drlg. 775 ft. in gumbo.
F. P. Zoch's No. 1 Kaufman ..... Set casing to test gas show 2,913-38 ft.
Mission Drlg. Co.'s No. 3 Ray, 3 miles E of No. 2. This formerly carried in Bee County, Pettus Pool. ... Drlg. 5,347 ft. in gumbo.
Western Union Oil Co.'s No. 1 Lucas, Juan Moya Delgado Sur. ..... Standing 480 ft.

GONZALES COUNTY

Acme Royalty & Leasing Co.'s No. 1 Weber, Thomas Wright Survey ..... Drlg. 720 ft.
Adams & Lyles' No. 1 Jackson Sur. ..... Shut down 800 ft.
Joe Bruner's No. 1 R. D. and J. C. Miller ..... Shut down 3,000 ft.
Crown Petroleum Co.'s No. 1 Hattenback ..... Drlg. 2,815 ft.
Finnell & Elam's No. 1 Robinson, Liverpool Sur. ..... Drlg. 1,720 ft.
Hoffman et al's No. 1 Booker, J. Stewart Sur. ..... Drlg. 1,025 ft.
Marshall & Moore's No. 1 St. Clair, R. H. Wymn Sur. .... Drlg. 1,700 ft.; steel derrick up.
L. L. Jones' No. 1 J. F. Kindred, W. W. Barnes Sur., 700 ft. W line, 1,000 ft. S line ..... Location.
Linderman Bros.'s No. 1 F. H. Frampton ..... Drlg. 1,610 ft.
A. G. Kifer's No. 1 B. B. Dix ..... Shut down 2,690 ft.

GUADALUPE COUNTY

H. H. Weinert's No. 1 A. E. Dowdy, J. C. Darst Sur., 110 ft. S line, 36 ft. E line ..... Location.
H. H. Weinert's No. 2 A. E. Dowdy, J. C. Darst Sur., 100 ft. N line, 36 ft. E line..... Location.
J. O. Dore's No. 1 Appling, H. Cottlebur ..... Location.
Grayburg Oil Co.'s No. 1 Wells, Jose La Bume Sur. ..... Drlg. 1,895 ft.
Pagenkopf & Kennon's No. 1 Holm, James Kent Sur., 7 miles E of Seguin..... Drlg. 250 ft.
Sights' No. 1 Berring Green, DeWitt Sur. ..... Fishing 2,240 ft.
L. W. Stieren's No. 1 S. H. Herman, Ragadale Sur. ..... Tested sulphur water 2,350 ft.
Sinclair Oil & Gas Co.'s No. 1 Koepp, W. H. Smith Sur. No. 62 ..... Drlg. 1,763 ft. in Buda lime.
Adams-Lyles-Walton's No. 1 Zoluroski, Jesus Cantu Sur... Corrected depth 953 ft.; standing.

HAYS COUNTY

E. A. Bucklin's No. 1 ..... Set casing 540 ft.

JACKSON COUNTY

Wright Bros.' No. 6 Drushell ..... Waiting orders 2,650 ft.
Wright Bros.' No. 7 Drushell ..... 3,875 ft.; waiting on casing.

JIM HOGG COUNTY

T. J. Conway's No. 2 Palacious, Sur. 232, Blk. 10 ..... Rigging up.
Deep Rock Oil Co.'s No. 1 Kelsey ..... Drlg. 2,000 ft.
L. M. Holden's No. 4 Jones, 1,820 ft. to north line, 1,320 ft. to east line of 160 acres out of Share 5 "A" Dregue Hinojosa Grant ..... Set 10-in. casing 42 ft.
R. E. Moore's No. 1 Yaguirre, 150 ft. N & E lines Las Animas Grant ..... Drlg. 1,350 ft.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. ..... Drlg. 2,350 ft.
Magnolia Pet. Co.'s No. 1 C. Cook, W. H. Sartain Sur., Blk. 45 ..... Drlg. 4,780 ft.

KARNES COUNTY

J. B. Claypool's No. 1 Tom, V. Zepeda Sur., 850 ft. N line, 1,600 ft. E line ..... Set surface casing.
Benedum-Trees' No. 1 S. E. Crews, Britton Odem Sur. .... Drlg. 2,235 ft.
Hurador Oil Co.'s No. 1 W. E. Porter ..... Standing 2,516 ft.
The Texas Company's No. 1 Rhuman ..... Drlg. 800 ft.

KERR COUNTY

L. R. Page and associates' No. 1 Real ..... Shut down 3,671 ft.

KENDALL COUNTY

E. L. Maddox-Powers' No. 1 Haag, W. Avery Sur. ..... Drlg. 400 ft.

KIMBLE COUNTY

Carl L. Bryant's No. 1 C. E. Lambert ..... Drlg. 150 ft.
H. A. McLean & Jamison's No. 1 R. F. Cannon ..... Shut down 995 ft.

KINNEY COUNTY

Lloyd Oil Co.'s No. 1 G. B. Moore, Survey 117 ..... Drlg. 2,200 ft.

LIVE OAK COUNTY

Catlett et al's No. 1 Smith, 900 ft. SW line, 150 ft. NW line ..... Location.
J. P. Lightfoot's No. 1 Lewis ..... Drlg. 1,490 ft.

MAVERICK COUNTY

Ryan Consolidated Petroleum Co.'s No. 2 Indio Ranch .. Total depth 5,300 ft.; prepring to shoot 3,200 ft.
Rycade Oil Corp.'s No. 4 J. M. Chittim ..... Drlg. 5,560 ft.; set casing.
Rycade Oil Corp.'s No. 4 Sullivan ..... Drlg. 5,633 ft.
Rycade Oil Corp.'s No. 5 Chittim ..... Drlg 1,500 ft.
The Texas Company, 5 miles west Darling Switch ..... Drlg. 3,380 ft.

MEDINA COUNTY

Pan American Petroleum Co.'s No. 1 Harrison, Sur. 799 .. Rigging up.
Peters et al's No. 1 Noonan, J. N. Alsbury Sur. ..... Shut down 1,250 ft.
Cecil Switzer's No. 1 Zen, 6 miles west of Hondo..... Fishing 3,487 ft.
R. C. Hill's No. 1 A. Wuezbach, G. Areola Sur., 500 ft. E line, 600 ft. S line ..... Location.
California-Medina's No. 1 Rothe ..... Fishing 3,450 ft.
A. U. Skogland's No. 1 Soothof, A. Smelzer No. 19 Sur. .. Shut down 900 ft.

MILAM COUNTY

Service Oil & Gas Co.'s No. 1 Muldrow, L. Taylor Sur., SE cor. ..... Location.
E. L. Chapman's No. 2 Johnson, J. J. Acosta Sur. ..... 2,100 ft. hot sulphur water in Edwards.
I. P. Sessions' No. 7 J. Bauer, T. J. Chambers Sur. .... Location.
E. L. Chapman's No. 1 Johnson, J. J. Acosta Sur. ..... Shut down 1,335 ft.
E. L. Chapman's No. 1 Holman in J. J. Liendo Survey.... Drlg. 1,740 ft.
Diggs and others' No. 1 Nolen ..... Derrick.
Hill & Bonwell's No. 1 B. Booher, James Welch Sur. .. Dropped from reports.
Lloyd Oil Corp.'s No. 1 Camp, Acosta Sur. ..... Derrick.
Lloyd Oil Corp.'s No. 1 San Clement, Fakes Sur. ..... Spudded in.
A. H. Wray's No. 1 D. D. Fowler ..... Drlg. 964 ft.

McMULLEN COUNTY

Sun Oil Co.'s No. 1 Berry, J. Poitenent Sur. No. 9 ..... Location.
Natt Holman's No. 1 Shiner, H. M. Brewer Sur. ..... Shut down 2,190 ft.

NUECES COUNTY

Nueces River Basin Dev. Co.'s No. 1 F. C. Allen ..... Drlg. 3,650 ft.
Trinity Drillers and Sun Co.'s No. 1 Tompkins ..... Drlg. 3,012 ft.

SAN PATRICIO COUNTY

Magnolia Petroleum Co.'s No. 1 C. Freeman, Sec. 57 .... Drlg. 5,553 ft.
LaFeria Oil & Gas Co.'s No. 1 C. C. Smith in J. C. White Survey, 690 ft. to north line, 350 ft. to east line .... Rigged up.
Houston Gulf Gas Co.'s No. 3 Welder ..... Fishing 5,098 ft.

STARR COUNTY

The Texas Company's No. 4-A V. G. Guerra, Porcion 67, Share 305-D ..... Drlg. 500 ft.
Smith & Adams' No. 1 Welch, Pedernal Sur. ..... Drlg. 531 ft.
Ohio Oil Co.'s No. 1 Bass, Porcion 76, Blk. 71 ..... Drilling.
Milam Drlg. Co.'s No. 5 R. Allen, Blk. 147 ..... Location.
U. S. Oil & Gas Co.'s No. 1 Kelsey, Por. 76, Blk. 11 ..... Standing.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles northwest of Uvalde ..... Spudded in.

WEBB COUNTY

L. U. Nelson's No. 2 Moglio, SE NW Sur. 673 ..... Drlg. 1,300 ft.
Usher Carson's No. 2 D. Benavides, Sur. 1,613 ..... Abandoned 2,535 ft.

WILLIAMSON COUNTY

M. L. Vaughan's No. 1 Logan D. Wright Sur., 300 ft. E line, 500 ft. S line ..... Location.
Ray Oil Co.'s No. 1 W. J. Fouse, W. Donoho Sur. ..... 156 ft.; waiting on heavier rig.
W. J. Harlan's No. 1 J. V. Stile, J. Bevil Sur., 600 ft. N line, 900 ft. E line ..... Location.
F. M. Moss et al's No. 1 Kreuger, W. Cartwright Sur., SW cor. ..... Location.

WILSON COUNTY

R. M. Sherer's No. 1 Tummilson, A. Trevena Sur. ..... Drlg. 457 ft.
Grayburg Oil Co.'s No. 1 Tigler, Parrot Sur. ..... Drlg. 3,304 ft. in lime rock.
R. M. Sherer's No. 1 First State Bank of Stockdale, Moran Sur. ..... Drlg. 220 ft.

ZAPATA COUNTY

R. F. Blankenship's No. 1 G. T. Montemeyer, Sur. 45, Blk. 7, 150 ft. N & E lines ..... Location.
John Pappas' No. 2 Cuellar, Por. 33 and 34 ..... Drlg. 150 ft.
Hill et al's No. 1 A. O. de Vela, Blk. 30, El Grulle Sur. ..... Drlg. 925 ft.
National Oil Co.'s No. 1 D. B. Adams ..... Standing 690 ft.
Buck & Coursey's No. 1 Trevino, Sur. 1..... Drlg. 1,640 ft.

ZAVALA COUNTY

Tritex Oil Co.'s No. 1 Clay Burns ..... Drlg. 730 ft.
Tritex Oil Co.'s No. 4 West ..... Drlg. 795 ft.
Tritex Oil Co.'s No. 1 Childress ..... Drlg. 1,095 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 56)

The Texas Company's No. 2 Pleasants, northwest ..... Drlg. sticky shale 5,175 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 3 Mitchell ..... Rig.
Humble & Valley's No. 3 Beal ..... Location.
Humble & Valley's No. 5-A Walton ..... Comp. pumping 180 bbls. 3,290 ft.
Humble & Valley's No. 6-A Walton ..... Location.
Humble & Valley's No. 5-A Deitrichs ..... To pump 3,578 ft.
Humble & Valley's No. 6-A Dietrichs ..... Drlg. sand 1,281 ft.
Humble & Valley's No. 7-A Dietrichs ..... Drlg. 800 ft.
Humble Oil & Refg. Co.'s No. 8-B Dietrichs ..... Derrick.
Humble & Valley's No. 9-A Dietrichs ..... Derrick.
Humble & Valley's No. 10-B Dietrichs ..... Rig.
Humble Oil & Refg. Co.'s No. 1 Dimear ..... Drlg. sandy shale 3,202 ft.
Humble & Valley's No. 1 Graneau ..... Comp. pumping 17 bbls. oil 3,234 ft.
Humble & Valley's No. 4 Belleville School ..... Drlg. shale 3,292 ft.
Humble & Valley's No. 3 Woodley ..... Drlg. shale 3,357 ft.
Humble & Valley's No. 2-A Grawunder ..... To pump 3,335 ft.
Humble & Valley's No. 3 Grawunder ..... Drlg. sand 3,132 ft.
Humble & Valley's No. 4-B Grawunder ..... Drlg. sandy shale 2,574 ft.
Humble & Valley's No. 5-B Grawunder ..... Derrick.
Humble & Valley's No. 6-B Grawunder ..... Rig.
Humble & Valley's No. 7-B Grawunder ..... Rig.
Humble & Valley's No. 10-B Grawunder ..... Rig.
Humble & Valley's No. 5 Urban ..... Drlg. sticky shale 2,797 ft.
Humble & Valley's No. 6 Urban ..... Rig.
Humble & Valley's No. 4 Saunders ..... Comp. flowing 394 bbls. 3,495 ft.
Humble & Valley's No. 4 Mueller ..... Drlg. hard shale 3,407 ft.
Humble & Valley's No. 5 Mueller ..... Drlg. sandy shale 3,445 ft.
Humble & Valley's No. 6 Mueller ..... Rig.
Humble & Valley's No. 7 Mueller ..... Location.
Humble & Valley's No. 2 Helmuth ..... Set screen 3,480 ft.
Humble & Valley's No. 4-A Bracey ..... Rig.
Humble & Valley's No. 5-A Bracey ..... Rig.
Humble & Valley's No. 2 J. W. Wilson ..... Comp. pumping 295 bbls. oil 3,158 ft.
Humble & Valley's No. 2 Ollie Wilson ..... Derrick.
Humble & Valley's No. 1 McCalfland ..... Drlg. sand and shale 2,327 ft.
Humble & Valley's No. 5 Gotosky ..... Drlg. 212 ft.
Humble & Valley's No. 6 Gotosky ..... Derrick.
Humble & Valley's No. 3 Sherrill ..... Location.
Humble & Valley's No. 5 Thompson ..... Rig.

DE WALT—FORT BEND COUNTY

Humble Oil & Refg. Co.'s No. 8 Brazos ..... Drlg. hard sandy lime 2,755 ft.
Humble Oil & Refg. Co.'s No. 8 Camp ..... Drlg. sandy shale 2,581 ft.
Humble Oil & Refg. Co.'s No. 1 Hagenson ..... Bailing oil sand 3,811 ft.
Humble Oil & Refg. Co.'s No. 3 Deatherage ..... Drlg. sandy shale 3,737 ft.
Humble Oil & Refg. Co.'s No. 12 Sugarland ..... Cemented casing to test 3,734 ft.
Humble Oil & Refg. Co.'s No. 13 Sugarland ..... Derrick.
Humble Oil & Refg. Co.'s No. 6 Nelson ..... Drlg. sticky shale 3,562 ft.
Humble Oil & Refg. Co.'s No. 1 Peterson ..... Drlg. gumbo 3,126 ft.
Humble Oil & Refg. Co.'s No. 1-B Sugarland ..... Drlg. 1,226 ft.
Humble Oil & Refg. Co.'s No. 1-C Bankers Mortgage..... Drlg. 1,246 ft.

HUMBLE—HARRIS COUNTY

Continental Oil Co.'s No. 1 Wagner ..... To pump 4,932 ft.
Continental Oil Co.'s No. 1 Cezeaux, south side ..... To pump 4,520 ft.
Humble Oil & Ref. Co.'s No. 5 Williams ..... Drlg. broken lime 5,127 ft.
Humble Oil & Refg. Co.'s No. 6 Williams ..... Rig.
Humble Oil & Refg. Co.'s No. 7 Williams (south) ..... Rig.
Humble Oil & Refg. Co.'s No. 1 Glass, south ..... Drlg. sticky shale 6,101 ft.
Humble Oil & Refg. Co.'s No. 1 Oates ..... Drlg. sticky shale and lime 3,950 ft.
Humble Oil & Refg. Co.'s No. 1 Trahon ..... Spudded.
Navarro Oil Co.'s No. 1 La. Oil Refg. Corp. ..... Abandoned 5,275 ft.
Harvey Smith et al's No. 2 Ward ..... Spudded.
South Texas Petroleum Co.'s No. 11 Morris, south side .. Drill stem stuck 5,326 ft.
South Texas Petroleum Co.'s No. 1 Lee, south flank .. Drlg. hard sand 4,492 ft.
Sun Oil Co.'s No. 3 Bender (northwest) ..... Rig.
The Texas Company's No. 265 Landslide, south ..... To pump 5,443 ft.
The Texas Company's No. 270 Landslide (south) ..... Rig.
The Texas Company's No. 41 Stevenson (south) ..... Derrick.
The Texas Company's No. 1 Dunman ..... Drlg. sticky shale 4,232 ft.
The Texas Company's No. 23 House ..... Swabbing showing salt water and some oil 4,174 ft.

BLUE RIDGE—FORT BEND COUNTY

Cunningham Prod. Co.'s No. 6 Blakely (workover) ..... To deepen.
Gulf Production Co.'s No. 17 Luscher ..... Drlg. shale 3,878 ft.
Sinclair Oil & Gas Co.'s No. 5 Davidson (workover)..... Drlg. 3,678 ft.
So. Texas Petroleum Co.'s No. 5 Blakely ..... Drlg. rock 1,220 ft.

PIERCE JUNCTION—HARRIS COUNTY

Anderson & Plummer's No. 6 Whitehead (workover) .... Drlg. 2,498 ft.
Navarro Oil Co.'s No. 4-B Cain ..... Set strainer 6,240 ft.; failed to flow; abandoned.
Navarro Oil Co.-Texas Exploration Co.'s No. 17 Dooley... Drlg. shale and lime 3,689 ft.
Navarro Oil Co.-Humble's No. 5 Dooley ..... Drlg. hard sand lime 1,762 ft.
Rio Bravo Oil Co.'s No. 11 B. Settegast ..... Drlg. 4,455 ft.
Rio Bravo Oil Co.'s No. 16-A Settegast, west ..... Drlg. gumbo and shale 1,655 ft.
Rio Bravo Oil Co.'s No. 17-A Settegast, west ..... Location.
Saxet Gas Co.'s No. 2 Herman estate, southwest ..... Standing; total depth 5,000 ft.
Saxet Gas Co.'s No. 4 Herman (southwest) ..... Drlg. gumbo and lime 4,546 ft.
Saxet Gas Co.'s No. 5 Herman (southwest) ..... Derrick.
Superior Oil Corp.'s No. 5-B Settegast (workover) .... Drlg. 4,652 ft.
J. F. Barron's No. 3 Fitzsimmons ..... Derrick.
Shaw & Texas Exploration Co.'s No. 2-F Fitzsimmons .. Derrick.
T. G. Shaw's No. 2 Dooley ..... Total depth 5,906 ft.; sidetracking 3,812 ft.

LIBERTY—LIBERTY COUNTY

Abercrombie & Harrison's No. 4 fee (workover) ..... To deepen.
Empire Gas & Fuel Co.'s No. 7 Groggan ..... Drlg. rock 3,300 ft.
Empire Gas & Fuel Co.'s No. 5 Groggan ..... Drlg. gumbo 2,026 ft.
Navarro Oil Co.'s No. 5 Baldwin ..... Rigging up.
Navarro Oil Co.'s No. 3 Community ..... Abandoned 3,426 ft.
Rio Bravo Oil Co.'s No. 1 Republic ..... Drlg. gumbo 911 ft.
Sun Oil Co.'s No. 50 Mitchell ..... Tested salt water 3,541 ft.
Sun Oil Co.'s No. 51 Mitchell ..... Coring sandy shale 3,486 ft.
Yount Lee Oil Co.'s No. 18 Mitchell ..... Testing oil sand 3,442 ft.

HULL—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 27 Barngrover, old well .. Standing 3,595 ft.
W. B. Flynn's No. 8 Harrison (workover) ..... Pulling liner.
Gulf Production Co.'s No. 50 Phoenix (workover) ..... Rig. to deepen.
Gulf Production Co.'s No. 56 Phoenix (workover) ..... Drlg. 2,966 ft.
Humble Oil & Refg. Co.'s No. 12 Hooks-Spell ..... Spudded.
Republic Production Co.'s No. 35 Dolbear (workover) .. Drlg. 4,497 ft.
Republic Production Co.'s No. 76 Dolbear (workover) ... Drlg. 1,371 ft.
Republic Production Co.'s No. 119 Dolbear ..... Set strainer 2,796 ft.
Sun Oil Co.'s No. 12 Carr ..... Abandoned 559 ft.
The Texas Company's No. 8 Hannah-Vacuum ..... Location.

BIG CREEK—FORT BEND COUNTY

Benedum & Trees' No. 1 J. F. Ahlers ..... Derrick.
Benedum & Trees' No. 1 Moore ..... Fishing drill pipe 3,697 ft.
Gulf Production Co.'s No. 35 Davis, (workover) ..... Drlg. 3,877 ft.
Gulf Production Co.'s No. 56 Davis ..... To test sand and shale showing oil 4,120-30 ft.
The Texas Company's No. 3 Wheat (old well) ..... Pulling liner to deepen 3,900 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 1 Mayes ..... Set 6 joints screen 2,846 ft.; flowed by heads 405 bbls. oil, 18% b.s. and water Oct. 16; water increased with drop in oil and now pulling screen.
Pure Oil Co.'s No. 4 Mayes ..... Drlg. shale, lime and boulders, 1,696 ft.
Pure Oil Co.'s No. 5 Mayes ..... Drlg. hard sand and lime 1,509 ft.
Pure Oil Co.'s No. 6 Mayes ..... Drlg. lime rock 1,247 ft.
Pure Oil Co.'s No. 7 Mayes ..... Drlg. broken lime rock 821 ft.
Pure Oil Co.'s No. 8 Mayes ..... Spudded and cemented surface pipe 45 ft.
Pure Oil Co.'s No. 3 Lost Lake ..... Drlg. sand and shale 3,043 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 26 Wisdom ..... Core dry shale and lime 5,190 ft.

SOUR LAKE—HARDIN COUNTY

Austin et al's No. 1 Watson ..... Rig.
Lake View Oil Co.'s No. 7 Minor ..... Drlg. 1,967 ft.
Gilbert Oil Co.'s No. 107 Gilbert..... Location.

ORANGE—ORANGE COUNTY

Brownie Babbett Oil Co.'s No. 8 McLean (workover) .... Drlg. 2,541 ft.
Tillery Oil Co.'s No. 3-B State (workover)..... Rig to deepen.

GOOSE CREEK—HARRIS COUNTY

Cedar Bayou Oil Co.'s No. 11 Busch ..... Total depth 1,800 ft.
Russell Ferrell's No. 4 Gillette (workover) ..... Rigging.
Humble Oil & Refg. Co.'s No. 76 Simms-Smith ..... Drlg. 2,141 ft.
Lake Shore Oil Co.'s No. 4 Duke ..... Drlg. 2,594 ft.
Jim McMurry's No. 2 Grace Addey (old well) ..... Comp. pumping 10 bbls. oil 2,783 ft.
Lube Well Oil Co.'s No. 1 Dannenbaum, (old well) .... Tested salt water 1,607 ft.; shut down.
J. M. West, trustee, No. 3 Seorrega ..... Rig.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 72 McFaddin (workover) ..... Testing sand and shale 4,329 ft.
Yount Lee Oil Co.'s No. 74 McFaddin (workover) ..... Sidetracking.
Yount Lee Oil Co.'s No. 85 McFaddin (workover) ..... Drlg. shale 4,406 ft.
Yount Lee Oil Co.'s No. 116 McFaddin ..... Cemented casing 4,327 ft.
Yount Lee Oil Co.'s No. 117 McFaddin ..... Cemented casing 4,030 ft.
Yount Lee Oil Co.'s No. 118 McFaddin ..... Drlg. sand and lime 3,509 ft.
Yount Lee Oil Co.'s No. 57 Gladys City (workover) .... Drlg. hard lime 4,438 ft.
Yount Lee Oil Co.'s No. 84 Gladys City, (workover) .... Swabbing 3,796 ft.
Yount Lee Oil Co.'s No. 95 Gladys City, (old well) ..... Comp. flowing 300 bbls. 2,994 ft.
Yount Lee Oil Co.'s No. 96 Gladys City ..... Swabbing 4,938 ft.
Yount Oil Co.'s No. 97 Gladys ..... Drlg. shale and lime 3,706 ft.
Yount Lee Oil Co.'s No. 24 Fee (workover)..... Comp. flowing 1,000 bbls. oil, 5,178 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Continental Oil Co.'s No. 1 Hogg ..... Total depth 5,818 ft. in anhydrite; plug to oil sand 4,800 ft.
Gulf Production Co.'s No. 3-B Hogg ..... To test oil sand 3,140 ft.
Humble Oil & Refg. Co.'s No. 3 Smith ..... Reaming 4,809 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 5-A Smith ..... Drlg. 2,069 ft.
Marrs McLean's No. 6 Cade (old well) ..... Standing 3,370 ft.
Marrs McLean's No. 16 Cade ..... Tested salt water 3,650 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 19 Moore ..... Drlg. sticky shale 6,058 ft.

REFUGIO—REFUGIO COUNTY

Benedum & Trees' No. 3 Rooke ..... Abandoned; gumbo 3,865 ft.
Morgan Oil Corp.'s No. 1 Fox heirs ..... Comp. flowing 420 bbls. pipe line oil 3,670-77 ft.; ¾-in. choke; 200 pounds pressure.
Morgan Oil Corp.'s No. 2 Fox ..... Derrick.
Morgan Oil Corp.'s No. 2 City ..... Core sand 3,674 ft.
Morgan Oil Corp.'s No. 3 City ..... Derrick.
Hewitt et al's No. 1 Cemetery ..... Cem. 12½-in. surface casing 446 ft.
Hewitt et al's No. 2 Cemetery ..... Rig.
Houston Gulf Gas Co.'s No. 6 Shelly ..... Total depth 5,700 ft.; to sidetrack 3,600 ft. and test gas sand.
Houston Gulf Gas Co.'s No. 1 Lambert ..... Spudded.
Houston Gulf Gas Co.'s No. 8 Shelly ..... Drlg. shale 2,232 ft.
Houston Gulf Gas Co.'s No. 5 O'Brien ..... Comp. 70,000,000 ft. dry gas 3,676 ft.
Houston Gulf Gas Co.'s No. 4 Fannie Heard (workover) .. Drlg. gumbo 3,621 ft.
Houston Gulf Gas Co.'s No. 8 Fannie Heard ..... Drlg. sticky shale 3,413 ft.
Houston Gulf Gas Co.'s No. 3 Tom Heard ..... Rig.
Houston Gulf Gas Co.'s No. 2 Cummings ..... Location.
Houston Gulf Gas Co.'s No. 2 Morgan Shelly ..... Derrick.
Korona Oil Co.'s No. 3 Reilly ..... Cemented 6⅝-in. casing on oil sand 3,659-66 ft.
Korona Oil Co.'s No. 4 Reilly ..... Rig.
Mission Drlg. Co.'s No. 1 J. F. B. Heard ..... Reset liner and screen 3,645 ft.
Mission Drlg. Co.'s No. 2 Skelly ..... Cemented casing 3,638 ft.
Mission Drlg. Co.'s No. 3 Skelly ..... Drlg. sticky shale 1,524 ft.
Mission Drlg. Co.'s No. 2 Fox (workover) ..... Cemented 8¼-in. casing on gas sand 3,638 ft.
Mission Drlg. Co.'s No. 1 Kuykendall ..... Drlg. sticky shale 1,587 ft.
Mission Drlg. Co.'s No. 2 Mitchell ..... Drlg. sticky shale 3,278 ft.
Mission Drlg. Co.'s No. 2 Powers ..... Derrick.
Oigufer Oil Co.'s No. 3 Ryalls ..... Rig.
Refugio Oil Corp.'s No. 1 Murphy ..... Drlg. shale and lime 3,050 ft.
Saxet Oil Co.'s No. 1 Serafine ..... Rig.
Saxet Oil Co.'s No. 1 Ryals ..... Derrick.
Saxet Oil Co.'s No. 3 Holmes Heard ..... Location.
Saxet Oil Co.'s No. 10 Clint Heard ..... Killed well to deepen from sand at 3,682 ft.
Saxet Oil Co.'s No. 1 Powers ..... Comp. flowing 1,200 bbls. net oil, 5% water on half-in. choke; sand 3,688-3,700 ft.
Houston Oil Co.'s No. 10 Pratt-Hewitt-Rooke ..... Cored sand showing gas and salt water 3,656 ft.
Houston Oil Co.'s No. 9 Wilson Heard ..... Rig.
Houston Oil Co.'s No. 2 F. Rooke ..... Cemented 8¼-in. casing on sand showing oil 3,670-82 ft.
Houston Oil Co.'s No. 13 F. B. Rooke ..... Cemented 8¼-in. casing on sand showing oil 3,674-82 ft.
Independent Oil & Gas Co.'s No. 1 O'Brien ..... Drlg. lime 4,460 ft.
Independent Oil & Gas Co.'s No. 1 Claude Heard ..... Drlg. 464 ft.
Independent Oil & Gas Co.'s No. 1 Anna Reilly ..... Cemented casing at 467 ft.
Independent Oil & Gas Co.'s No. 1-A J. F. B. Heard ..... Location.
W. L. Pearson, trustee, No. 2 Fox ..... Derrick.
W. L. Pearson, trustee, No. 1 Swift ..... Drlg. shale 2,087 ft.
W. L. Pearson, trustee, No. 1 Simpson ..... Deepened from 3,664 to 3,681 ft.; flowing 800 bbls. pipe line oil.
Sun Oil Co.'s No. 1 Leisering ..... Drlg. sand 3,658 ft.
Sun Oil Co.'s No. 2 Leisering ..... Drlg. gumbo 1,490 ft.
Texas Gas Co.'s No. 1 Rogers ..... Killed 1,400 lbs. gas pressure 3,686 ft.; to deepen.
The Texas Company's No. 1 Clint Heard ..... Rig.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum & Gulf's No. 3 State ..... Drlg. shale 5,112 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 4 Lemke ..... Drlg. gumbo and lime 3,394 ft.
Calcasieu Oil Co.'s No. 4 Caldwell ..... Drlg. gumbo 1,756 ft.
Rycade Oil Corp. and Humble's No. 2 Gulf Land (workover) ..... Trying to sidetrack; total depth 3,964 ft.
Rycade Oil Corp.-Humble Oil & Refg. Co.'s No. 4 Gulf Land ..... Rigging.
Yount Lee Oil Co.'s No. 1-B Lacey, Old Hackberry..... Drlg. 1,946 ft.
Yount Lee Oil Co.'s No. 2-B Lacey, Old Hackberry..... Rig.
Yount Lee Oil Co.'s No. 2 Carter & Sweeney, Old Hackberry ..... Rig.
Sunshine Oil Co.'s No. 4 Ellender ..... Drlg. gumbo 3,280 ft.
Sunshine Oil Co.'s No. 5 Ellender ..... Drlg. gumbo 3,000 ft.

JENNINGS—ACADIA PARISH

The Texas Company's No. 5 Rayne heirs (King tract).... Drlg. 4,467 ft.
Yount Lee Oil Co.'s No. 4 Crowley, northeast flank, Section 48-9s-2w ..... Drlg. 6,152 ft.
Yount Lee Oil Co.'s No. 5 Crowley, Sec. 48-9s-3w ..... Location.
Yount Lee Oil Co.'s No. 7 Houssiere-Latrielle, Sec. 47-9s-2w ..... Drlg. 6,991 ft.
Yount Lee Oil Co.'s No. 1 E. F. Simms (northwest side).. Started drilling.

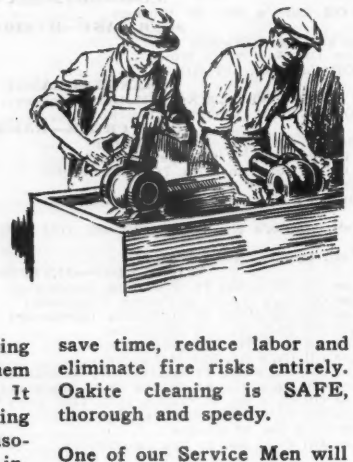
EDGERLY—CALCASIEU PARISH

C. M. Crotty's No. 15 Lillard ..... Drlg. 2,324 ft.
Green Oil Co.'s No. 2 Moore (workover) ..... Fishing 2,557 ft.
Rex Petroleum Co.'s No. 8 Hunter (workover) ..... Drlg. 3,396 ft.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 1 J. W. Gardner ..... Drlg. 2,999 ft.

Nobody likes to scrub!



SCRUBBING and scraping salvage parts to get them clean is a job nobody likes. It is tedious, time-consuming and costly. And, when gasoline or distillate is used, involves a fire hazard as well.

A far easier and safer way to clean is with Oakite materials—let them do the scrubbing. By soaking equipment clean in an Oakite solution you save time, reduce labor and eliminate fire risks entirely. Oakite cleaning is SAFE, thorough and speedy.

One of our Service Men will be glad to point out its advantages. Ask to have him call or write for "Oakite in the Oil Industry," a practical cleaning booklet full of money-saving suggestions. No obligation either way.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the U. S. and Canada.

Manufactured only by
OAKITE PRODUCTS. INC., 44C Thames Street, NEW YORK, N. Y.

OAKITE

TRADE MARK REG. U.S. PAT. OFF.

Industrial Cleaning Materials and Methods

COMPLETE NEWS EVERY WEEK

To be of genuine value to oil men, news of the Petroleum Industry should be presented clearly, thoroughly, and with strict accuracy every week of the year.

The Oil Industry moves with great speed. Conditions change rapidly, old fields apparently settled down to small regular outputs are revived, creating oil-producing sensations; new territories, miles from known producing areas, become prolific oil centers; areas previously condemned as lacking oil-bearing sands develop great pools; new pipe lines make possible sudden expansion of heretofore unknown districts; refinery and natural gasoline manufacturing methods change overnight; prices change quickly.

All important events and changes within the Petroleum Industry are recorded every week in The Oil and Gas Journal so that its readers will be among the very first to benefit.

Be among the best informed oil men. Read The Oil and Gas Journal every week and always renew your subscription promptly.

The OIL and GAS JOURNAL
PRODUCING REFINING MARKETING

Box 2004, Tulsa, Okla.

Six dollars a year (52 copies)

Salt Dome Oil Co.'s No. 2 Shaw ..... Drlg. 2,976 ft.
Vinton Petroleum Co.'s No. 1 Matilda Gray (workover) .. Comp. flowing 1,000 bbls. oil 3,149 ft.
Vinton Petroleum Co.'s No. 4 Matilda Gray (workover) .. Oil sand; set strainer to test, 2,938 ft.
Marrs McLean's No. 4 Gray (workover) ..... Fishing 1,779 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 7 Bouillion fee ..... Drlg. hard sandy lime rock 4,650 ft.
Rycade Oil Corp.'s No. 8 State (former well) ..... Drlg. hard sandy shale and lime 3,672 ft.

STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 11 Lutcher-Moore (workover) .. Working over.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 7 Yount Lee ..... Standing cem. 6,881 ft.
Pure Oil Co.'s No. 9 Yount Lee ..... Derrick.

SORRENTO—ASCENSION PARISH

Gulf Refining Co.'s No. 16 United Land Co. ..... Drlg. 996 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Kirby Petroleum Co.'s No. 1 Rogers, San Felipe ..... Location.
Whittington et al's No. 1 Lass, 4 miles northwest of Bellville ..... No report.

BRAZORIA COUNTY

Faust et al's No. 5 Faust ..... Drlg. brown gumbo 2,000 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Spudded.
Steel & Strickland's No. 1 Lockridge ..... Rig.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down in gumbo 1,200 ft.

FORT BEND COUNTY

Gulf Production Co.'s No. 12 Trone, Long Point ..... Drlg. shale 5,698 ft.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Standing 4,055 ft.
Gulf Crest oil Co.'s No. 1 Gulf Crest ..... Drlg. gumbo 2,320 ft.
A. F. Belunek's No. 1 Thompson ..... Rig.
Hammond et al's No. 1 Brodt ..... Drlg. sand and shale 1,020 ft.
Humble Oil & Refg. Co'.s No. 6 Warren Hockley .... Fishing 4,368 ft.
Humble Oil & Refg. Co.'s No. 1 Sidious Maykawa ..... Drlg. hard shale 2,898 ft.
Humble Oil & Refg. Co.'s No. 2 Woodburn ..... Spudded; set 20-in. casing 39 ft.
Rich et al's No. 1 Highlands ..... Derrick.
Watts Brothers' No. 1 Hubert, Mykawa ..... Rig.
York & Robertson's No. 1 Garrett, Harris & Carpenter Sur. ..... Sandy shale 1,917 ft.; shut down.

JEFFERSON COUNTY

Deep Test Oil Corp.'s No. 1 Faith-McFadden ..... Shut down.
Gulf Production Co.'s No. 3 Burrell Fannette ..... Comp. flowing 1,400 bbls. pipe line oil 5,575 ft.
Gulf Production Co.'s No. 1 Junker, Fannette ..... Drlg. shale and sand 4,530 ft.
Gulf Production Co.'s No. 12 Thomas, Fannette ..... Comp. flowing 3,500 bbls. oil 4,375 ft.
River Oil Corp.'s No. 1 Ship Channel, Brown Survey .... Standing.
Shell Petroleum Corp.'s No. 1 Heisig, Hampshire ..... Abandoned in shale 7,305 ft.
The Texas Company's No. 2 Pipkin, Big Hill ..... Drlg. hard sand and shale 4,980 ft.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... Drlg. sand and rock 3,422 ft.
The Texas Company's No. 1 Burrell, Fannette ..... Abandoned 5,150 ft.
Vacuum Oil Co.'s No. 1 Herbert-Broussard, T.&N.O. Sur. No. 208. ..... Drlg. sticky shale 5,454 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 1 Weiser ..... Drlg. 3,156 ft.
Gulf Production Co.'s No. 3 Boyt, Hankamer ..... Drlg. 1,425 ft.
Humble Oil & Refg. Co.'s No. 6 Sterling, Moss Bluff .... Drlg. sticky shale 3,953 ft.
Pure Oil Co.'s No. 1 Liberty, Moss Bluff ..... Abandoned 5,758 ft.
Cranfill Reynolds Co.'s No. 1 Vajdak, Sheeks ..... Set screen 4,203 ft.
Cranfill Reynolds No. 3-A Esperson, Sheeks ..... Set casing to test oil sand 3,310 ft.

MONTGOMERY COUNTY

Kelley-Baker et al's No. 1 Juerges ..... No report.

ORANGE COUNTY

Galperin et al's No. 1 Mansfield ..... Rigging up.
Gulf Production Co.'s No. 1 J. H. Starks, Port Neches ... Drlg. 3,170 ft.
Gulf Production Co.'s No. 1 M. H. Starks, Port Neches ... Derrick.
The Texas Company's No. 1 Polk, Port Neches ..... Drlg. gumbo and boulders 2,210 ft.

WALLER COUNTY

Empire Gas & Fuel Co.'s No. 1 Jackson, San Felipe ..... Location.

SOUTH LOUISIANA

ASCENSION PARISH

Triumph Oil Corp.'s No. 2 Lacey, Sec. 20-10s-4e ..... Shut down 3,327 ft.

CALCASIEU PARISH

Wilfred LaHay's No. 2 James, Sec. 14-10s-13w ..... Shut down 3,400 ft.
J. O. Davis' No. 1 Mims, Sec. 20-9s-7w ..... Standing 5,600 ft.

CAMERON PARISH

Shell Pet. Corp.'s No. 6 Watkins, Black Bayou ..... Drill stem test showed salt water 4,802 ft.; to deepen.
Shell Pet. Co.'s No. 12 Watkins, Black Bayou ..... Drlg. shale 4,912 ft.
Shell Pet. Corp.'s No. 13 Watkins, Black Bayou ..... Drlg. sticky shale 1,100 ft.
Shell Pet. Corp.'s No. 1 Marceaux, Mallard Bay, Sec. 32-12s-3w ..... Drlg. sticky shale 2,465 ft.
The Texas Company's No. 4 Calcasieu Lake, Calcasieu Lake Dome ..... Drlg. rock 4,305 ft.
Yount Lee Oil Co.'s No. 1 Starks, Sec. 1-15s-15w ..... Drlg. shale 4,282 ft.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 3 Lake Piegneur ..... Rig.
The Texas Company's No. 4 Vermillion Bay ..... Waiting on water well.

IBERVILLE PARISH

Shell Petroleum Corp.'s No. 3 Wilbert, White Castle .... Comp. flowing 600 bbls. fluid; 92% b.s. and water; 5,836 ft.
Standard Oil Co.'s No. 2 Schwing, Bayou Blue ..... No report.
Standard Oil Co.'s No. 3 Schwing, Bayou Blue ..... Derrick.
Standard Oil Co.'s No. 4 Schwing, Bayou Blue ..... Derrick.
Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Derrick.

JEFFERSON DAVIS PARISH

Vacuum Oil Co.'s No. 2 DeVilbiss, Roanoke ..... Drlg. water sand 5,760 ft.
Yount Lee Oil Co.'s No. 1 Courtney, Roanoke ..... Location.

LA FOURCHE PARISH

Gulf Refining Co.'s No. 1 Charities, NE Sec. 25-23s-22e .. Location.

PLAQUEMINE PARISH

Humble Oil & Refg. Co.'s No. 1 Cockrell-Moran, Sec. 2-20s-26e ..... Drlg. 3,760 ft.
The Texas Company's No. 3 Garden Island Bay ..... Building derrick.

ST. LANDRY PARISH

Gulf Refining Co.'s No. 2 Gaudet, Port Barre ..... Drlg. 2,206 ft.
Elbof Exploration Co.'s No. 1 Ledoux, Eunice ..... Location.

ST. MARTIN PARISH

Ohio Oil Co.'s No. 4 Martin, Hager Dome ..... Derrick.
The Texas Company's No. 1 fee, Hager Dome ..... No report.
The Texas Company's No. 2 St. Martin, Hager ..... No report.
The Texas Company's No. 3 fee, Hager ..... Location.
The Texas Company's No. 4 fee, Hager ..... Location.
The Texas Company's No. 1 Iberville, Hager ..... Rig.
The Texas Company's No. 2 Iberville, Hager ..... Location.
The Texas Company's No. 3 Iberville, Hager ..... Location.

TANGIPAHOA PARISH

Completion Oil Co.'s No. 1 Amos ..... 2,700 ft., gumbo and shale.
Joan Development Co.'s No. 1 Hilton, Sec. 20-9s-9e ..... Cem. 6⅝-in. casing 3,000 ft.; standing.

TERREBONNE PARISH

Charles Paggi's No. 1 Evergreen, Sec. 145-15s-16e ..... Abandoned gumbo 1,940 ft.
The Texas Company's No. 3 State-Bay St. Elaine ..... Rig.
The Texas Company's No. 1 La. L. & E. Co., Dog Lake .. Drlg. lime 1,583 ft.
The Texas Company's No. 2 La. L. & E. Co., Dog Lake .. Bldg. derrick.
The Texas Company's No. 2 La. L. & E. Co., Four Isle .. Shut down for repairs; previously reported total depth 3,050 ft.
The Texas Company's No. 1 State—Bay Junop ..... Drlg. gumbo 4,245 ft.
The Texas Company's No. 3 State—Lake Pelto ..... Driving piling.
The Texas Company's No. 2 State—Caillou Island ..... Driving piling.

AVERAGE TANK WAGON PRICES FOR GASOLINE RESUME UPWARD TREND

The average net gasoline tank wagon price in The Oil and Gas Journal's 50 cities made a substantial advance in September as a result of the larger companies attempting to stabilize conditions in the East Coast marketing territory. Advances of 2 cents in the tank wagon price were posted in the Standard of New Jersey territory and in the Atlantic Refining Co.'s territory which brought up the average considerably but at the same time, these companies announced they would give a 2-cent discount off the tank wagon price to dealers so the actual revenue will not be materially changed. This move was an attempt to eliminate the practice of rebating and places the market on a much more stable basis.

Compared to a month ago, the October 1 average of 16 cents is one-fourth cent higher. This remains .34 cent below the average of a year ago, however. Except for these changes in the eastern territory, there was little change in the general market. Despite the wide margin between the refinery tank car price and the station price prevailing in most sections, there has been very few price wars.

TANK WAGON PRICES EXCLUSIVE OF TAX IN 50 REPRESENTATIVE CITIES

	Sept. 1	September price changes	Oct. 1	1928 High	1928 Low	1927 High	1927 Low	Tax 1929 Oct. 1
Birmingham, Ala.	16.0	20 15.0	15.0	18.0	14.0	18.0	14.0	4.0
Phoenix, Ariz.	14.0	....	14.0	18.0	14.0	19.0	16.0	4.0
Little Rock, Ark	14.0	....	14.0	16.0	11.0	15.0	11.0	5.0
San Francisco, Calif.	17.0	....	17.0	14.0	14.0	14.0	9.0	3.0
Denver, Colo.	14.0	....	14.0	16.0	13.0	18.0	13.0	4.0
Hartford, Conn.	16.0	....	16.0	18.0	16.0	22.0	18.0	2.0
Dover, Del.	17.0	9 16.0	16.0	18.0	16.0	19.0	16.0	3.0
Jacksonville, Fla.	16.0	....	16.0	18.0	13.0	16.0	10.0	6.0
Atlanta, Ga.	16.0	....	16.0	18.0	13.0	18.0	10.0	6.0
Boise, Idaho	20.5	....	20.5	20.5	19.5	22.5	19.5	4.0
Peoria, Ill.	16.2	....	16.2	15.2	9.0	18.2	9.0	3.0
Chicago, Ill.	16.0	....	16.0	15.0	14.0	17.0	14.0	3.0
Indianapolis, Ind.	16.2	....	16.2	15.2	10.2	18.2	10.2	4.0
Des Moines, Iowa	16.5	....	16.5	15.5	11.9	16.0	9.9	3.0
Wichita, Kans.	14.8	....	14.8	13.8	10.8	15.8	10.8	3.0
Louisville, Ky.	16.0	....	16.0	16.0	13.0	17.0	13.0	5.0
New Orleans, La.	11.5	27 10.0	10.5	14.5	10.5	14.5	11.5	*5.0
Augusta, Me.	16.0	....	16.0	18.0	17.0	22.0	17.0	4.0
Baltimore, Md.	14.0	23 16.0	16.0	16.0	15.0	19.0	16.0	4.0
Springfield, Mass.	16.0	....	16.0	18.0	16.0	22.0	12.0	2.0
Detroit, Mich.	16.8	....	16.8	15.8	11.8	18.8	11.8	3.0
Duluth, Minn.	17.5	....	17.5	16.5	12.5	19.5	12.5	3.0
Natchez, Miss.	15.5	....	15.5	16.5	12.5	15.5	12.5	5.0
Kansas City, Mo.	15.9	....	15.9	14.9	10.9	17.9	10.9	*3.0
Helena, Mont.	20.5	....	20.5	20.5	19.5	22.0	19.5	5.0
Omaha, Neb.	16.25	....	16.25	15.25	13.25	15.25	12.25	4.0
Reno, Nev.	20.0	....	20.0	18.0	18.0	18.0	15.0	4.0
Newark, N. J.	14.0	....	14.0	16.0	15.0	19.0	16.0	2.0
Albuquerque, N. Mex.	16.0	....	16.0	17.0	14.0	20.0	16.0	5.0
New York, N. Y.	14.0	....	14.0	18.0	17.0	22.0	17.0	2.0
Charlotte, N. C.	14.0	23 16.0	16.0	17.0	15.0	18.0	16.0	5.0
Fargo, N. Dak.	18.9	....	18.9	17.0	12.0	20.0	12.0	3.0
Cleveland, Ohio	15.0	....	15.0	16.0	14.0	19.0	14.0	4.0
Tulsa, Okla.	11.0	....	11.0	14.0	10.0	15.0	10.0	4.0
Portland, Ore.	17.5	....	17.5	14.5	14.5	14.5	11.0	3.0
Philadelphia, Pa.	17.0	9 16.0	16.0	18.0	15.0	19.0	12.0	†4.0
Providence, R. I.	14.0	9 16.0	16.0	19.0	17.0	22.0	17.0	2.0
Charleston, S. C.	14.0	23 16.0	16.0	17.0	15.0	19.0	15.0	6.0
Huron, S. Dak.	17.3	....	17.3	16.3	14.5	19.5	11.5	4.0
Memphis, Tenn.	13.0	24 15.0	15.0	16.0	12.0	15.0	10.0	5.0
Dallas, Tex.	13.0	....	13.0	14.0	9.0	13.0	10.0	4.0
Salt Lake City, Utah	18.5	....	18.5	18.5	16.5	20.5	16.5	3.5
Burlington, Vt.	15.0	....	15.0	18.0	17.0	22.0	17.0	4.0
Norfolk, Va.	14.0	23 16.0	16.0	16.0	14.0	18.0	16.0	5.0
Washington, D. C.	14.0	23 16.0	16.0	16.0	15.0	19.0	16.0	2.0
Charleston, W. Va.	14.0	23 16.0	16.0	17.0	15.0	18.0	16.0	4.0
Milwaukee, Wis.	16.1	....	16.1	15.1	13.1	18.1	13.1	3.0
Casper, Wyo.	17.0	....	17.0	16.0	14.0	18.0	14.0	4.0
Seattle, Wash.	17.5	....	17.5	14.5	14.5	14.5	11.0	3.0
Minneapolis, Minn.	17.2	....	17.2	16.2	11.0	15.2	11.1	2.0
Average price	15.74	....	16.00	16.54	13.54	18.15	13.55	3.71

*State tax 2 cents, remainder city tax. †Paid by dealer.

SKINNER

Collar Leak Clamp
for repairing
leaky Collars

THIS clamp—operating on gland and stuffing box principle—shapes the rubbers to the job. Not dependent on collar recesses, as the gasket container rings guide the rubbers, always inward, into the leak. The Skinner Collar Leak Clamp is particularly valuable on rough or uneven collars. Made of malleable iron, for any pressure.

In stock at all supply stores.

M. B. SKINNER CO.
Sample Street at Falcon Street
SOUTH BEND, IND.

SKINNER BAND CLAMP

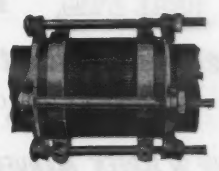
EMERGENCY PIPE CLAMP

SKINNER SERVICE SADDLE

SKINNER PIPE LINE CLAMP

SKINNER PIPE JOINT CLAMP

SKINNER H. P. SADDLE CLAMP


SKINNER COLLAR LEAK CLAMP

It is

Economy

to install—

THE LAYNE

MILLED GROOVE

"Greater Production"

Oil Well Screen

Now instead of Later

Enlarged section showing Keystone Wires passing over Milled Groove holes.

Showing enlarged inlet area known as Milled Groove.

Remember this! The Layne Milled Groove screen, oil industry's latest, exclusive and most practical invention, reduces operating costs to the minimum!

Here are the reasons: 1. The larger inlet area, known as Milled Groove, has sufficient added area to greatly increase production—users claim from 33-1/3% to 100% increase. 2. "Sand cutting" is eliminated by Keystone Wires being wrapped from 10 to 12 times over each groove, insuring a uniform flow of flood. 3. Grooves are so spaced that the drainage distance between the Keystone Wires is very short, eliminating the possibility of openings becoming clogged with mud or sand. 4. Only the finest of materials are used in manufacture. 5. Dependable and satisfactory performance 365 days each year. Therefore—

It is economy to install the *Layne Milled Groove* screen now instead of later!

Write, wire or phone for quick service or any further information.

The Layne & Bowler Co.

Houston THE LAYNE **Texas**

Increases Production

The Layne New York Co. 30 Church St., New York

The Layne & Bowler Corp. Los Angeles, Cal.

Vickers, Limited London, England

LEADERSHIP IN SCREEN MANUFACTURE

FOR MORE THAN A QUARTER CENTURY

In a few scattered points prices have been shifted, often, indicating the uneasyness of the price situation but this has been due to unusual local conditions without exception, and is not typical of the market in general.

AVERAGE TANK WAGON PRICES IN 50 CITIES

(Exclusive of Tax)

September 1, 1927	14.62
October 1	14.39
November 1	14.32
December 1	14.21
January 1, 1928	14.29
February 1	14.33
March 1	14.71
April 1	14.81
May 1	15.02
June 1	15.22
July 1	15.29
August 1	15.74
September 1	16.04
October 1	16.34
November 1	16.28
December 1	15.98
January 1, 1929	16.00
February 1	15.11
March 1	14.73
April 1	14.90
May 1	14.94
June 1	15.80
July 1	16.02
August 1	15.82
September 1	15.74
October 1	16.00

CHEMISTRY REVEALS IMPORTANT FACTS

(Continued from Page 42)

tablished that in general the lighter portions will travel much faster and farther than the heavier. For details of such work the reader is referred to United States Geological Survey Bulletins 365 and 375.

While the effects noted above have mostly been to produce a change of composition in the same general direction, it is probable that the solubility of the various constituents in each other would have a tendency to keep the aggregate at a uniform composition or prevent separation of the various individual hydrocarbons in varying degrees. It does not in any case neutralize the general separation or classification effects of the other factors.

Important Factors Given

While there are other factors influencing the changes in composition that take place in oil and gas during their travels, the ones given are probably the most important. The characteristic that is most capable of interpretation may be considered as a filtering action due to the sum total of all the above actions. This may be summed up in the general statement that the lighter, more fluid constituents with the smaller molecules will pass through any strata in larger proportions than the heavier, more viscous portions with the larger molecules. This makes for a higher concentration of the lighter at more distant parts while the heavier will be more concentrated nearer the source.

With the above picture of the situation in mind we may consider how these conceptions may be used in obtaining a picture of underground conditions in oil and gas fields.

One of the first and most important uses of the above principles is to determine the source or direction of flow of the oil or gas found in a pool. This can be told in practically all cases with absolute certainty in the case of either oils or gases in the same or different sands. The changes in composition are quite characteristic and in hundreds of cases have not been known to fail. It does not necessarily mean that wells nearer the source will be larger or better as there are a good many other factors to be considered before such will necessarily be the case.

Principles Applied

To illustrate how this may be told in the case of gases and what the changes in composition mean in some cases it might be well to take some actual data and apply some of the above principles. For this purpose we will consider four producing gas wells of approximately the same depth located in the centers of the four forties of a quarter section of which combustion analyses show the following composition:

	NW %	NE %
Carbon dioxide	0.23	0.22
Methane	75.53	75.67
Ethane	18.61	18.39
Residue	5.63	5.72
	SW %	**SE %**
Carbon dioxide	0.22	0.21
Methane	74.83	75.00
Ethane	19.47	19.24
Residue	5.48	5.55

An examination of these data shows without a shadow of doubt that the general source of these gases is to the south and slightly west of the group of wells and that the gases have been or are traveling in a direction slightly east of north. This is evident if we apply the above principles to the data since the percentage of the lighter and more fluid constituents as shown by the methane present increases as we go in this direction while the heavier and more viscous as indicated by the ethane in the analyses show a decrease.

In all of the numerous pools examined there has never been a case in which something of this nature was not evident.

Direction of Oil

An examination of the data indicates that well SW is nearer the oil than any of the other wells and this is just as certainly correct as if this gas were exceedingly wet while all the others were dry. This is clearly indicated since well SW is more nearly like oil as indicated by the higher ethane content in the analysis. The data show that probably the gas is not entirely surounded by oil though it would require additional wells in selected locations to tell just how far up on each side the oil extends if it does extend up on either side. There would be no reason whatever to drill north or northeast of this group of wells with expectation of striking oil in this sand.

From the type of data and well locations it will be easily seen that it is possible to calculate the exact direction of the oil if we consider the origin of the gas to be either at a point or on a front. Assuming a front for the origin the average of various combinations of the data will calculate out about 15 degrees to the west of a line drawn south from well SW and this line should strike near the center of the oil front. The same direction may also be shown by means of graphs.

It is necessary to have data on at least three wells not in line for calculations of this kind while with two wells and no additional information regarding a pool only the general direction within 90 degrees can be told.

Distance to Oil

Complications may arise in connection with the distance to the oil and we will consider only a simple case that may be illustrated by the above data. In a case of this kind when it is known about what type of gas might be expected to be in actual contact with the oil in the locality and at the particular depth of the gases found it is possible to tell from the rate of change of composition of the gases between the various wells about how far it will be before a gas should be found of the composition of the gas in contact with the oil. A gas in contact with oil in the locality and at the depth of the group of wells should have about the following composition:

	Per cent
Carbon dioxide	0.2
Methane	72.0
Ethane	23.0
Residue	4.8

These particular gases are rather close together for very certain calculations but if the rate of change in composition were maintained for a little more than a mile it would give a gas of about the above composition, and in this case it happens that this is about the distance to the oil.

With gas wells suitably located from which to calculate it has been possible to estimate quite accurately the distance to oil in many cases. Incidently this data

BAASH-ROSS

H&W Rotary Slips are cheaper because liners are easily replaced when dull... long-lasting because made of heat-treated steel forgings... extra long for sure grip without crushing or crimping the drill pipe or casing... safe because the loop handles prevent crushed fingers...

(a) Liner Retaining plate which holds liner firmly in place, but may be easily removed by taking out two set-screws (b) to replace liners

(c) Extra heavy forged, heat-treated bodies.

(d) Loops prevent injury to hands by crushing against rotary table

(e) Large forged handles prevent dropping through table and afford two-hand grip in setting

(f) Extra length holds securely without crimping or crushing drill pipe or casing, and relieved backs insure full seating between rotary table bushing and drill pipe

BAASH-ROSS TOOL CO.

General Offices and Plant... 5512 Boyle Avenue
Los Angeles, California

J&L PIPE B-R

Field Shops equipped for 24-hour supply and mechanical service at *Long Beach, Brea, Ventura, Taft*

Export Department . . . *30 Church St., New York*
District Offices . . . . . Houston, *1816 Nance St.*
Tulsa: *International Supply Co., Lucey Products Corp.*

Baash-Ross Tool Co.,
Box 1297, Arcade Station, Los Angeles

Send Bulletin 36 . . . no charge . . . describing Baash-Ross H. & W. Rotary Slips . . .

*Name*_____

*Company*_____

*Address*_____

Oil and Gas Journal, Oct. 17, 1929

"Here, Lad—

From the number of bidders we encounter on pipe line jobs I'm beginning to feel that we must watch our step in buying the new welders."

The Lincoln "Stable-Arc" Welder

—welds easier
—makes better welds
—permits greater output because of the steady uniform arc throughout entire welding range, which is the result of:
Variable voltage design
Laminated magnetic circuit
Separately-excited generator field
Double control of welding heat
All steel construction

No other welder has all these features.

"No, Pop—

We must watch the other fellows step—which is what I haven't been doing anything else but.

Here's what I've found on 16 recent pipe line jobs:

The biggest one had 110 'Stable-Arc' welders at work;

The next largest had 91 'Stable-Arc's';

Another had 48 'Stable-Arc's'—another 16—three more jobs had 10 'Stable-Arc's' on each and on the remaining nine jobs, the 'Stable-Arc's' ran from 6 down to 2 on a six mile line.

They tell me that the Lincoln machine is the fastest of the bunch, so we can't afford to get into pipe line work with anything slower.

So the steps we take to keep abreast of competition should be fast ones."

The Lincoln Electric Co., Dept No. 26-10, Cleveland, Ohio

LINCOLN "Stable-Arc" WELDER

W-115

proves this pool with some certainty for this distance in a southerly direction. This distance may be calculated or determined by graphs and in this particular case if an oil well location is desired and there is a willingness to take some chance on a change in direction of the sand the location should be made in the forty one-fourth mile west and 1¼ miles south of well SW.

The data will calculate and plot out for this forty in several different ways and this should be about the center and edge of the oil front from which the gases are derived. This location might possibly still be gas and the forty south would be somewhat more certain so far as oil is concerned but there would be increased chances of a dry hole in going the greater distance. When oil has been found in one location in a pool it is possible to estimate distances of other locations with certainty and accuracy.

Proven or Barren Territory

Chemical data probably offer the most conclusive evidence as to whether or not with wells some distance apart the intervening territory can be considered as proven. Two or more wells may be close together and of approximately the same depth and still not be in the same sand and intervening territory may be barren. Geological evidence is not always clear on this point while in only rare cases and under peculiar conditions will the chemical evidence be at fault.

We may illustrate this point by using the data already given and assuming a well to be put down 1 mile to the north of well NE. If a gas is found at about the same depth as the group of wells the usual conclusion is that the territory is proven between this well and the group of wells. However, suppose an analysis of the gas from this assumed well shows the following composition:

	Per cent
Carbon dioxide	0.2
Methane	71.5
Ethane	23.6
Residue	4.7

If we apply the foregoing principles it is readily seen that with the gas traveling in a northeasterly direction as is clearly indicated, it would be impossible for the gas encountered in the group of wells to change in such a way as to produce a gas of the composition given for the assumed well. There would be not to exceed one chance in a hundred of the sand being continuous and the assumed well to the north does not prove the intervening territory, but proves only that there is an intervening strip that is almost sure to be barren. Situations of this kind have been found in numerous cases and chemical evidence has proven to be exceedingly reliable.

Proven Territory

On the other hand if an analysis of the gas from the assumed well showed about the following composition it would indicate quite conclusively that the intervening territory was proven:

	Per cent
Carbon dioxide	0.2
Methane	78.3
Ethane	15.0
Residue	6.5

This gas shows just about the composition we would expect if the gases from the group of wells should travel this distance and we may consider the field proven and the sand to be continuous between the group of wells and the single well. Incidentally if a gas of this character were found at this location it would show conclusively that the oil is in one direction only from the group of wells, or that it does not extend up along the sides to any great extent.

The data given for the assumed well in these two cases are not in any way unreasonable but such as might be found under the circumstances outlined. There are literally hundreds of examples of similar conditions that have been proven.

Since the character of the gas in the group of wells indicates quite plainly that there is oil in the same sand and since as pointed out this oil is probably something like 1 mile from the gases, as already pointed out we may consider with some assurance that the territory to the south has been proven to about this distance and without a well having been put down.

Pool Limits

The edge of productive formation can frequently be determined by variations in the normal rate of change in composition of an oil or gas. Nothing of this kind is indicated in the data given.

However, as we approach the edge of this pool we might expect the normal rate of change in composition of these gases as indicated by the rate shown in passing from one of the various wells to the others to show a decided change. Also it is frequently possible to determine the edge by comparing with the rate in some other part of the pool after a dry hole has been put down and this rate of change established for a side of the pool. It is frequently possible to establish the boundaries of an oil or gas pool with only one dry hole and nearly always with not more than four. In some cases no dry holes are necessary to establish such edges and still be sure of getting all the oil or gas possible. The edge between oil and gas can almost always be told with accuracy.

In the location of wells probably chemistry has as much of value to offer as in any other one thing. The data given above indicate that it would be perfectly safe to drill a gas well in any adjoining location and to judge from the character of the gas there would be little chance of failure in skipping a location in any direction. In any direction except southwesterly not more than a single location should be skipped in putting down a new well.

For Safe Development

The proper location of an oil well has already been taken up but for safest development it would be better in this case to drill about every other gas location, not in a direct line, since by doing this if there should happen to be a change in direction of the sand the data would point out such a change with absolute certainty and succeeding locations could be made accordingly.

Chemical advice on this question has the advantage that the location may be made with a view of determining just what it is desired to learn or show regarding a pool. If the desire is to extend a pool and prove territory one location might be pointed out while if a certain producer is wished another location might be preferable. Probably a chance at an oil well would suggest another location. In fact, depending on what is wanted and how much certainty of a producing well there is a willingness to sacrifice for the information obtained, the best location may be chosen to meet any requirements. In general the location of wells is quite definitely indicated by chemical examination when there is any doubt and such locations may also be made with the idea of furnishing additional chemical data for future locations.

Correlation of Pools

Correlation of pools long distances apart is sometimes possible from chemical data and thus indicate that there should be productive territory between. Such data indicates that the general conditions of formation, etc., must have been the same in the locations studied and there should be no good reason why the intervening territory should not be good territory.

The writer suggested many years ago that there should be oil and gas in the territory between Augusta, Kans., and Ellsworth, Kans., from the similarity between the quality of gas found around Ellsworth and that found in the vicinity of Augusta. This was also true between Augusta and Blackwell, Okla. Since the conditions of formation of these gases were indicated to be similar there should be at least a strip connecting them that should have oil or gas possibilities.

It is possible to tell with some accuracy what to expect in any direction in the line of supply from the general nature of the sands as indicated by the effect they have on the passage of oil or gas. This of course, would be much

Out on time—
a GREENSPON habit

When you want pipe—you want it! When you give us an order you get delivery when you want it—and right on the job, too! Standardized service includes tracing every shipment to destination by telegraph.

You can get this service from us on new and reconditioned pipe for oil and gas lines for use anywhere. Ample stocks of all sizes of pipe are ready for shipment from Tulsa, St. Louis, and Wheatland, Pa.

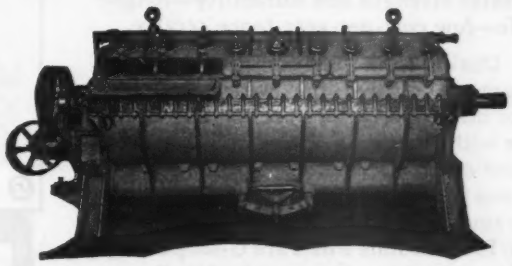
Write, wire or 'phone any of our offices for quotations and delivery dates on any requirements.

Jos. GREENSPON'S Sons
IRON & STEEL COMPANY
ST. LOUIS TULSA NEW YORK CITY WHEATLAND, PA.

ODEE PIPE FOR GAS LINES

Greenspon's pioneered ODEE pipe for gas lines.

GREENSPON'S
PIPE FOR ALL PURPOSES



VALLEZ ROTATING LEAF FILTERS

For contact filtration and dewaxing with the aid of volatile diluent

All sluicing, washing and discharging done within the press, eliminating opening of the filter, giving advantage of closed system and eliminating considerable labor.

Suction, Gravity and Pressure Filters

WE BUILD

High Duty Vacuum Rotary Filters	Condensers ---------- Driers
Pressure Filters ---------- Kilns	Saturaters ---------- Towers
Evaporators ---------- Stills	Settlers ---------- Retorts

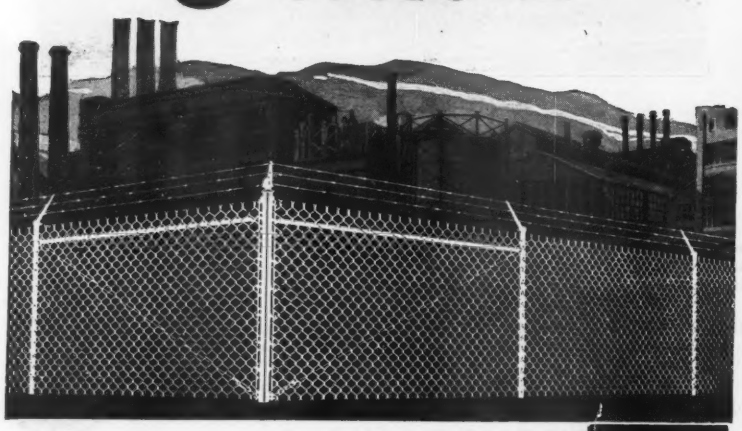
Write for information, catalog and complete equipment data.

GOSLIN-BIRMINGHAM MANUFACTURING CO.

Main Office and Works: Birmingham, Alabama
New York Office: 82 Beaver Street

Western Union Code—5 letter Cable Address, "JOUGOS"

ANCHOR Fences



Investigate these money-saving fence features . . . .

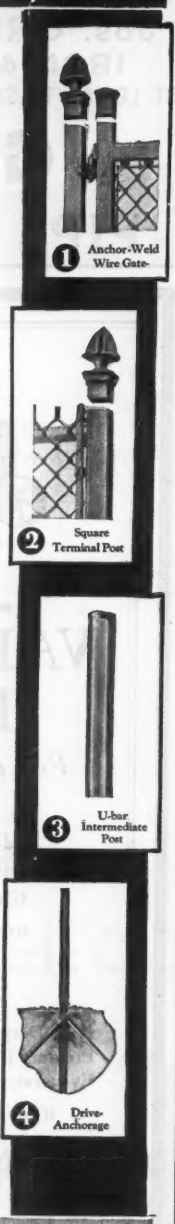
Before you buy a fence for your property—get the facts regarding the four exclusive Anchor Fence Features illustrated. They mean greater strength and durability—longer fence life—*low cost-per-year fence service.*

Anchor Chain Link Fences are designed throughout to outlive the wear, tear and strains of oil property service. (1) The Gates are made with frames of *square,* tubular steel, *arc-welded* at the corners. (2) Special *square,* tubular steel is used for Terminal Posts—not ordinary round pipe. (3) To provide maximum strength, Intermediate Posts are U-shaped and rolled from high carbon steel. (4) Drive-Anchors insure firm post anchorage—gripping the soil like the roots of a tree.

Prompt Sales and Erecting Service

A local Anchor Fencing Specialist is nearby—ready to serve you. Phone or write him. He will gladly supply complete information regarding Anchor Fences and is equipped to furnish a complete fence advisory and erecting service.

Anchor Fences are made in types suitable for oil field lease camps, tank farms, refineries, pipe line pump stations and other oil industry properties.



ANCHOR POST FENCE CO.

Eastern Ave. & Kane St., Baltimore, Md.

Divisional Sales Offices

New York, N. Y. 9 East 38th St. — Cleveland, Ohio 21500 St. Clair Ave — San Francisco, Calif. 460 Fifth St.

Sales Agents

Tulsa, Okla.—Dresser & Gorton, Inc., Mayo Bldg.
Houston, Texas—The DeBaun Company, 2112 Second National Bank Bldg.
Los Angeles, Calif.—J. E. Dwan, Inc., 616 S. Anderson St.
Shreveport, La.—R. M. Spurlock, 3306 Line Ave.

Branch Offices and Sales Agents in other cities Consult Local Telephone Directory

A NATION-WIDE FENCING SERVICE

more certain after a number of wells had been brought in in a pool.

Gas blowing to oil is a condition that can be predicted with some certainty. In some cases where this is desirable it is possible to tell how to handle production in adjoining wells to encourage this and if such is not desired it may be told how to avoid it as long as possible, and get maximum gas from a well before this takes place.

Which Wells to Offset

In the matter of which of various wells to offset chemistry may furnish valuable information as in many cases there may be a break in the sand and no necessity for an offset while in others there may be a partial shutting off of communication between wells and so no chance for one well to get much oil or gas from another's territory. On the other hand, one well may be in free communication with another and so be able to take a lot of the oil or gas from its territory and hence should be the first to offset.

Chemical data, since they furnish information about the texture of the sand, will frequently indicate the best procedure in cases of this kind.

The present scheme of spacing wells at fixed distances is not scientific or warranted and in many cases it is possible to show by chemical means that wells may be spaced at much greater distances without sacrificing production. In other cases wells should be placed closer together to obtain maximum amounts of oil or gas. In the above data the wells would seem to be spaced about the right distance for gas wells in this type of formations.

The general character of the sand is quite certainly indicated by the changes in composition of the oil or gas in the horizontal passage through such sand. In some of the rather loose formations the change is so small that the greatest accuracy is required to get results that may be interpreted correctly while in some of the finer and more dense formations the changes in composition are very marked.

Further Information Available

In addition to what has been suggested above and concerning which plenty of data is available to substantiate the value in practically all cases, the following points have been studied and in many cases or with particular conditions chemistry may furnish valuable information.

Percentage to take from wells may be indicated in some cases. The popular practice of taking a fixed percentage from all wells regardless of other considerations is unscientific to say the least.

In flooding also chemistry may offer some suggestions, as there will be in some cases at least rather characteristic changes in composition of the gas as the water approaches. The correct method of handling to prevent this may be indicated.

Gases from different levels of a single well or groups of wells will often furnish conclusive evidence of the presence of oil in lower strata or in case the oil is in the lower strata this will be clearly indicated by the character of the gas encountered in this lower strata.

Changes in a single well or a number of wells with use may throw light on underground conditions and what to expect or how to deal with problems that may arise. They may also indicate the presence of oil when it has not been detected before.

In many cases chemical topographical lines may be drawn that will parellel those made from geological data. In a number of cases these lines have proven correct when the chemical and geological lines disagreed.

Useful in Tracing Migrations

Such data are valuable in tracing the migrations of oil, gas and water and this may be of assistance in many cases. They may indicate that a well properly handled will be a commercial well while it might be passed up as a showing only on other evidence.

Which wells to deepen will at times be indicated.

Considerable about which wells to shoot and where to place shot may be indicated or perhaps it will be shown that shooting would not be the thing to do under the circumstances.

When to use vacuum and when pressure may be indicated.

The systematic study and examination of a group of abandoned wells from which samples may be obtained may also throw light on conditions in the vicinity and thus may prove valuable in opening up new pools. Much of the information obtained will depend on the same principles as the preceding suggestions though there is room for ingenuity to determine just how to handle such wells to obtain the maximum information. It is safe to say that no wells should be abandoned without getting a rather complete chemical examination of the products before final abandonment.

Wildcat wells are drilled largely for the purpose of obtaining information and it goes without saying that anything in the line of a gas encountered in such a well should receive a complete chemical examination. This applies even if it is a lot of trouble and expense and may cause considerable delay in obtaining a sample. Numerous things of value may be told from an examination of a sample of gas even if it is only a showing and has no possibility of making a commercial well.

Presence of Oil Told

One of the first things that can be told is whether or not there is oil in the vicinity. Gases in close contact with oil, as already pointed out, will have characteristics quite distinct from those at greater distances.

It is usually possible to tell whether the oil associated with the gas found is in the same sand or if it is in a sand at greater depth. There is a distinct difference in the character of a gas depending on whether it has traveled from the oil in a vertical or horizontal direction.

When data of a general nature are in hand regarding the locality it is frequently possible to tell the distance either in a vertical or horizontal direction that the oil may be expected.

If other wells are put down and the same gas encountered it is possible to calculate the direction and distance of the oil as discussed previously.

In the drilling of water wells it is not unusual to encounter what are called "wind gases" and such gases may have the same possibilities as those encountered in regular drilling operations. These may be only small in amount but the information conveyed may be valuable. Many of them are nearly pure nitrogen or carbon dioxide and as such would be of little value, but others have a hydrocarbon content and may furnish information along the lines suggested in the discussion of wildcats. If these are encountered in a number of wells or at different depths it makes possible the various interpretations suggested here.

Bubbles May Tell Much

Gases bubbling from water may also furnish valuable information, as some of these gases are from real oil and gas formation conditions, though for the most part such gases are the result of local decomposition. In general, if they consist of methane and carbon dioxide only, they may be considered as due to local decay but if there is an appreciable amount of ethane present it may be assumed that they are derived from conditions favoring the formation of oil and gas.

The following points are not directly connected with the subject in hand but are mentioned as being of general interest:

The analysis indicates the value of the gas or oil as fuel. Not all gases of the same heating value will prove equally satisfactory as a fuel and the analysis indicates why this is the case. There are also wide variations in the heating values of the gases of the Mid-Continent Field and this will be indicated by the chemical examination.

The possibility of producing helium from the gases is also of importance. An adequate supply of helium is always being

NATURAL
GASOLINE FOR
CONTROLLED
VOLATILITY

GRAVITY	75-79° API
INITIAL	95-100° F
83%, or more at	212° F
END POINT	350°, or lower
RECOVERY	98%

AND

The storage and handling losses
are less than regular U. S. Motor

PHILLIPS AVIATION

Used for (1) Aviation Gasoline (2) A Premium Motor Fuel (3) Blending

PHILLIPS PETROLEUM COMPANY
Bartlesville, Oklahoma Minneapolis, Minnesota

© 1929, Phillips Petroleum Company

You Furnish the Ground

Let *Leader* Furnish the **Bulk Plant**

LEADER IRON WORKS
2130 N. Jasper Street
DECATUR, ILL.
21 E. 40th St.
New York, N. Y.

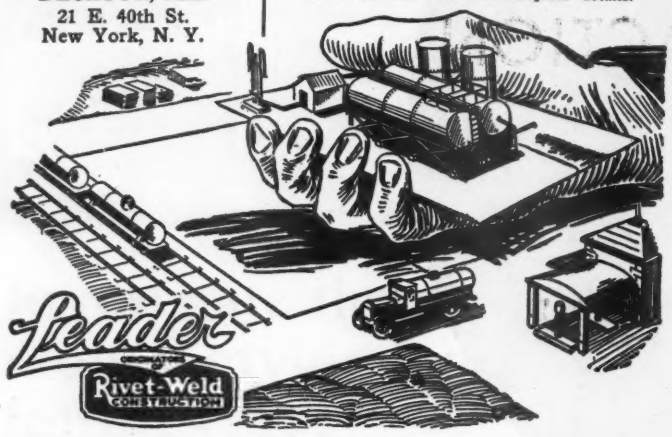
—and that means complete in every detail—Tanks, Supports, Pumps, Truck Loaders, Unloading Racks, Valves, Pipe and Fittings. This equipment is in stock ready for immediate shipment. And it all comes to you at one time.

Leader will also erect your plant—from start to finish—including the concrete work, and unload your first cars of gas and oil.

The equipment will be the best that money can buy—including the well-known Leader Rivet-Weld Leak-Proof Tanks. If you wish to consult with one of our Service Engineers regarding the type and size of plant equipment best suited to your needs, simply tell us so.

Leader equipment and service give complete satisfaction to the oil man—why accept anything less, when it costs no more in the long run?

Write for Bulletin and complete details.



THE FULTON THROTTLING REGULATOR

The Fulton Throttling Regulator maintains a constant pressure under varying conditions of load.

The Regulator is placed in the suction line to the compressor and is controlled by the pressure at the discharge acting on the diaphragm surface, which is balanced by weight on the lever.

A tendency of the discharge pressure to rise overbalances the weight on the lever and the valve moves toward its seat, throttling the suction sufficiently to restore and maintain the discharge pressure at a fixed point.

THE CHAPLIN-FULTON MFG. CO.
Manufacturers of Regulators for Industrial Gas Service
28-40 Penn Ave., Pittsburgh, Pa.

Profits Depend on Productive Hours

THE money you invest in production equipment is money invested to produce profits. For this vital and sufficient reason you can't afford to harbor any incompetents on your "equipment payroll"—machines or equipment that are liable to falter or quit flat under the stress of service.

One certain method of insuring continuous production from vital production equipment is to make sure that the vital load-bearing parts have the sturdy stamina to stand up under the punishment of relentless oil field service.

Dorp Forged Parts have load-bearing, strain-resisting ability in a proven and positive degree. They're strong. They're tough. They have the inbuilt stamina to deliver in the face of brutal oil field work.

The production engineer who insists on drop forged parts for replacement and who demands drop forgings on all new equipment is making an investment for full-time, trouble-free production.

THE CHAMPION MACHINE & FORGING CO.
Cleveland, Ohio

CHAMPION DROP FORGINGS

Get this catalog

On the New Sullivan

for deep tests or wildcats

Sullivan "60" is the new Diamond Drill for deep tests and wildcat drilling. It will drill large holes as well as small ones, rapidly—and take core wherever desired.

Makes Big Hole—Sets Big Casing

Sullivan "60" will make open hole to 6000 feet, or set 5500 feet of 3-in. casing, 5000 of 4¾-in., 4000 of 6⅝-in., 2500 of 8⅝-in. or 1000 of 11¾-in.

Straight True Holes

Hydraulic 18-in. feed, and three drilling speeds, give you sensitive control of the bit. And you can be sure of drilling straight true holes.

Uses any equipment used by Rotary

In addition to the diamond bit, Sullivan "60" uses any equipment used by the rotary drill, including a Kelley.

Handles Highest Pressures

Sullivan "60" will complete holes against the highest gas pressures yet encountered.

Separate hoist and pumping outfit are supplied.

Sullivan "60" with equipment for deep holes, is much lighter than other equipment—and saves freight and transportation.

Send for the Catalog

Interesting pictures, and details are contained in the new Catalog 85-H. Send for it today.

Sullivan Machinery Company
825 Wrigley Bldg., Chicago, U.S.A.
GEO. E. FAILING, *Agent*, Garber, Okla.

looked for and some of these gases may provide such a supply.

Gasoline recovering possibility is also another thing the analysis may indicate and with the present trend this is one source of value in many of the natural gases.

Fractionation Analyses

The usual combustion analysis of a gas furnishes many facts concerning certain features of the gas though its limitations are well known to those familiar with the subject. While the data given to illustrate some of the preceding examples are of this kind, it is probably more reliable in all cases and is absolutely necessary in some to use complete analyses made by fractionating with liquid air. Such analyses give the percentage of methane, ethane, propane, butane, pentane, etc., in a gas and since in this work we are primarily interested in the relative amounts of these different components and how they are removed in traveling through various strata it will readily be seen that analyses showing such percentages will be of more certain value than the ordinary combustion analysis which shows only two hydrocarbons and these not in the correct amount.

With increasing demand for propane and butane analyses of this kind will become more important and in addition they furnish the correct data for calculating the amount of natural gasoline of any particular grade that is actually present in a gas. Such analyses are also valuable in connection with plant design.

It might be mentioned that while the combustion analysis does not give true percentages or the actual hydrocarbons present there are compensations which make up for these errors and the results calculated for additional properties such as gravity, heating value, etc., will be correct. The residue should also be correct.

Prospecting

While so much attention is being given to the numerous geophysical methods of prospecting it seems rather peculiar that more attention should not be given to some of the chemical possibilities. This is probably explained by the fact that for the most part the men interested in this line of work are not chemists and have never given the matter much thought. Some preliminary work indicates that there really are possibilities along this line and it seems possible to locate anticlines and the presence of oil and gas at a comparatively small cost.

Geology locates anticlines only and says little about whether or not oil or gas may be actually present in such anticline. This should apply particularly to those localities where geological evidence is not certain and it is necessary to do core drilling to locate formations.

This particular phase of the subject has not been worked out to any certain conclusions at the present time but enough data have been secured to warrant a statement that there are possibilities and this work is being continued at the University of Kansas.

Most of the above suggestions are of rather a simple nature and not difficult to follow once the general principle is understood and accepted, and this general principle has been checked so many hundred times that there is no doubt whatever about its correctness. In practice there are many cases of a more complicated nature, especially where there are a number of oil and gas sands in the locality and perhaps several in the same well. All these conditions complicate the interpretation of the data, but when proper allowance is made for various disturbing factors and sufficient comparative data are at hand it is always possible to make deductions that will be of value in practically any of the lines suggested.

Little Chemical Knowledge Necessary

The simple cases require no particular chemical knowledge to understand and to be able to interpret the results, though perhaps with more experience it would be possible to read more into the data and with somewhat more reliability. The more complicated cases require experience and comparative data to interpret fully.

In all these considerations it cannot be too emphatically stated that the data must be reliable and correct or consistent and such data is not as simple in connection with gas analyses as a cursory scanning of the methods given in the textbooks would suggest.

While the greater stress has been laid on the gas examinations and their interpretations, the same general considerations will hold for the oil and just as much valuable information may be obtained from an examination of this as the gas.

No mention is made of benefits that may be derived from a chemical examination of the waters and brines encountered in drilling operations as there has been a large amount of work done along these lines and the value of such work under some circumstances is well known and recognized.

Chemical Data of Great Help

In a general way it may be said that chemical data are of great help in picturing underground conditions at the beginning of development and what is happening as wells are put down and production increases and this knowledge may prove useful in many ways in the handling of oil or gas properties.

No idea is entertained that chemistry should supplant geology in the oil and gas industries, but they should no doubt be worked out together. When conclusions arrived at by the two agree it should make such conclusions as certain as it is possible to get them since two entirely different sets of principles are used in their derivation.

In some circumstances chemistry will point out facts that geology has no means of ascertaining and in such cases should be especially valuable. Nor is any claim made for chemistry that it is possible to interpret the data and obtain 100 per cent facts as to underground conditions under all circumstances and that a complete and correct picture of such conditions thousands of feet underground can be had in every case.

F. D. DORN HEADS PENNA CRUDE OIL ASSOCIATION

PITTSBURGH, Pa., Oct. 21.—Executive officers to serve for the ensuing year were elected at a meeting of the board of directors of the Pennsylvania Grade Crude Oil Association held here.

Forest D. Dorn, president of the Forest Oil Corp., Bradford, Pa., was made president to succeed John P. Flynn, of the Reno Oil Co., Sistersville, W. Va.

John A. Beck of the Pennsylvania Refining Co., Karns City, Pa., was elected vice president, succeeding I. H. Shearer, of the Kendall Refining Co., Bradford, Pa.

E. M. Lyons, Tiona Refining Co., Philadelphia and Clarendon, Pa., recording secretary, and S. Messer, Oil City, Pa., treasurer, were re-elected.

Rodney J. Alexander of Oil City, will continue as executive secretary.

The affairs of the association are said to be in a very satisfactory condition, and plans for the campaign in 1930 are well in hand.

ARGENTINE OIL LAW

President Irigoyen, of Argentina, has issued an executive order prolonging the sessions of the congress which expired on September 30 and submitted a program of 10 legislative projects to be considered, including the nationalization and monopoly of petroleum production. One of the last acts of the senate before the adjournment on September 30 was its refusal to be stampeded into approving the petroleum bill which had been before it since its passage by the chamber of deputies two years ago.

NEW MEXICAN OIL RESERVE

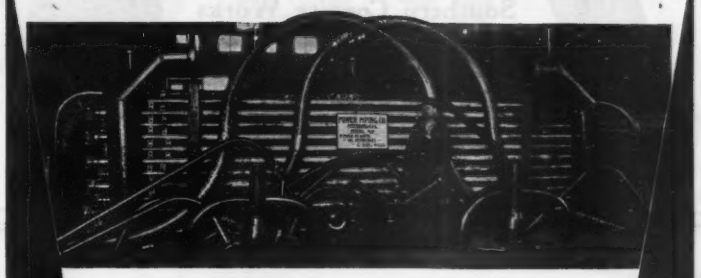
By a decree of the Mexican president, the right of way and annexes of the National Railways of Mexico are declared to be a part of the Federal petroleum reserve.

BITUMASTIC
REG. U.S. PAT. OFF.
ENAMEL

For over forty years steel structures have been made proof against corrosion by coatings of this impervious protection. Its record in the pipe line field accentuates the dollars and cents value of applying it to all oil and gas lines.

Wailes Dove-Hermiston Corporation
17 Battery Place, New York
Philtower Bldg., Tulsa
Philadelphia Cleveland Chicago Houston San Francisco

PIPE BENDS



In the oil field pipe bends of various shapes and dimensions are an essential in the piping system—no matter how complex the job may be "put it up to POWER PIPING"—a specialized organization catering for years to the peculiar needs of this industry!

Power Piping
FOR EVERY OIL FIELD NEED
0-4

POWER PIPING COMPANY
PITTSBURGH

"IWANA" Hair Belting

"Favorite of the Oil Fields" and UNRIVALLED for SERVICE

Will outwear and stand more hard use and abuse than any other make of BELTING.

Manufactured by
Fenwick-Reddaway Mfg. Co.
Newark, N. J.

CAMEL'S HAIR, COTTON and LINEN PRODUCTS
Mid-Continent Representative
ARCH F. CAMPBELL, P. O. Box 171, Tulsa, Okla.
Phone 2-1117

CRANE STANDARD VALVES AND FITTINGS MEET ALL ORDINARY REQUIREMENTS

CRANE

IF SPECIAL MATERIALS ARE NEEDED, CRANE CO. MAKES THEM TO ORDER

Ventilators

Southern Cornice Works

Oil Field Work a Specialty

Phone 2-1546 118-120 So. Cincinnati
TULSA, OKLA.

Leases - Production

Each week the Classified Wants Section contains advertisements describing properties that may be just the kind that you are trying to get.

Each week good opportunities are listed. Read about them—news of many good bargains is contained in every ad.

The OIL and GAS JOURNAL
PRODUCING REFINING ENGINEERING MARKETING
Classified Wants Section

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

For Week Ending October 9

Carson County

Osborne and others' No. 3 Percival, 330 feet north and west of SE cor. east half NE Section 199, Block 3, I.&G.N. Survey.

Gray County

Constantine and others' No. 1 J. K. Crews, 330 feet south and west of NE cor. SW Section 20, Block 30, H.&G.N. Survey. Magnolia Petroleum Co.'s No. 4 Magnolia Petroleum Co., 990 feet south and 330 feet west of NE cor. NE Section 11, Block 3, I.&G.N. Survey.

Hutchinson County

The Texas Company's No. 3 J. L. Moore, 330 feet south and 1,338 feet east of NW cor. SW Section 125, Block 4, I.&G.N. Survey.

Wheeler County

Murchison & Fain's No. 4 I. Close, at the C NE NE Section 75, Block 23, H.&G.N. Survey.

NORTH CENTRAL AND WEST TEXAS

For Week Ending October 9

Archer County

Barnsdall Oil Co.'s No. 1 L. F. Wilson-Ports, 797 feet north and 150 feet west of the SE cor. of Section 128, A.T.N.C.L. Survey. Gwynn-Boyd Drilling and others' No. 7 A. D. Thompson, 450 feet south and east of NW cor. Lot 16. Section 20, A.T.N.C.L. Survey. Heydrick & Stump's No. 2 J. H. White, 150 feet north and west of SE cor. Lot 15, Section 40, A.T.N.C.L. Survey. Hedrick-Camp Drilling Co.'s No. 1 T. B. Wilson, 150 feet north and east of SW cor. of north 60 acres of the east 100 acres of the T. B. Wilson 722-acre tract and located in the B. J. Howard Survey A-179. P. Trahan's No. 1 G. T. Netherton-A, 150 feet north and east of SW cor. Section 104, A.T.N.C.L. Survey. Van Alex Oil Syndicate's No. 2 J. H. White, 150 feet north and east of SW cor. Lot 7, Section 34, A.T.N.C.L. Survey. Young and The Texas Company's No. 1 W. H. Taylor-B, 189 feet north and 150 feet east of SW cor. of west half of NE Section 1, S.P.R.R. Survey A-428. Abercrombie and others' No. 1 H. Harrison, 150 feet south and west of NE cor. of south half of the H. Harrison 103.4-acre tract out of Section 11, Block 5, Clark & Plumb. Goldsmith and others' No. 2 Otto Deitrich, 150 feet south and west of NE cor. of the east 11 acres of the north 21 acres of the NE Section 4, B.B.B.&C. Survey A-1150. Hi-Land Oil Co.'s No. 1 E. A. Hausler, 150 feet north and east of SW cor. of south 13.33 acres of the east half of Section 16, Thomas McCoy Survey A-269. Humble Oil & Refining Co.'s No. 9 A. M. Kunkel, 150 feet north and 2,250 feet west of SE cor. of their 40-acre lease out of Section 3, B.B.B.&C. Survey A-51.

Petroleum Production Co. and others' No. 11 A. M. Kunkel-B, 150 feet north and 1,761 feet west of SE cor. of their 40-acre lease "B" out of Section 3, B.B.B.&C. Survey A-51. Panhandle Refining Co.'s No. 1 Cantral Hanover Bk. & Tr., 950 feet north and 150 feet east of SW cor. Section 51, G. P. Meade Subdivision, L. M. Pasture. Petroleum Production Co. and others' No. 12 A. M. Kunkel-B, 150 feet south and 2,250 feet west of NE cor. of their 40-acre lease "B" out of Section 3, B.B.B.&C. Survey A-51. Prairie Oil & Gas Co.'s No. 1 M. Brom, 150 feet north and 750 feet east of SW cor. of the north 100 acres of the M. Brom 160-acre tract out of Section 1,584, T.E.&L. Survey. I. E. Silkwood and others' No. 1 T. J. Longley estate, 2,850 feet south and 1,300 feet east of NW cor. of the J. B. Hines Survey A-184.

Brown County

J. Bearman and others' No. 7 S. F. Miller-Spencer, 870 feet south and 450 feet west of NE cor. of the T. J. Swindell Survey. G. A. Buder's Tract No. 5 N. E. Munselle, 150 feet south and 750 feet west of the NE cor. of his 80-acre lease out of the W. Ahrenbeck and Brother Survey No. 3, A-20. A. B. Gordon's No. 2 S. B. Cannon-A, 150 feet north and west of SE cor. of the west 80 acres of the S. B. Cannon 200-acre tract out of the W. Ahrenbeck and Brother Survey No. 3, A-20. S. Herring and others' No. 1 C. L. Layman, 150 feet north and 993 feet west of the SE cor. of the west half of Section 41, H.T.&B. Survey. S. B. Owens and others' No. 5 S. B. Cannon, 950 feet north and 150 feet west of the SE cor. of the S. B. Cannon 200-acre tract out of the W. Ahrenbeck and Brother Survey No. 3, A-20. The Texas Company's No. 7 S. C. Kessler, 150 feet south and 423 feet west of the NE cor. of their 60-acre lease out of Section 42, H.&T.C. Survey. J. H. Green and Co.'s No. 1 W. L. Hill, 150 feet south and east of NW cor. of the south 38.5 acres of the west half of the P. Walker Survey A-992. Paramount Oil Royalty Co.'s No. 1 W. L. Robbins, 150 feet north and west of SE cor. of the north 20 acres of the south 40 acres of the west 80 acres of the SE Section 10, H.T.&B. Survey.

Callahan County

Gibson & Johnson's No. 1 R. McDonald, 150 feet north and east of SW cor. NE Section 100, B.B.B.&C. Survey.

Clay County

Lone Star Gas Co.'s No. 23 J. D. Stine estate, 150 feet south and 987 feet west of NE cor. of the north half of Section 17, Parker County School Land, A-374.

Coleman County

F. M. Burnham and others' No. 1 E. Strozier, 150 feet south and 603 feet east of NW cor. of Lot 22, A. Gabel Survey No. 271. Permian Oil Co.-Gibson & Johnson's No. 4 J. J. Crowder, 128 feet south and 424 feet east of NW cor. of their 20-acre lease out of the J. H. Wood Survey No. 483. Same company's No. 5 J. J. Crowder, 150 feet north and west of SE cor. of their 20-acre lease out of the J. H. Wood Survey No. 483. L. Smith's No. 7 J. P. Morris, 126 feet south and 2,109 feet west of NE cor. of the J. H. Wood Survey No. 483. White Eagle Oil & Refining Co.'s No. 29 J. P. Morris, 150 feet north and 425 feet east of the SW cor. of Lot 26, William Webber Survey No. 722. Gutzman & Aldrich's No. 1 L. C. Haas, 550 feet north and 150 feet west of SE cor. of Section 71, Block 1, G.H.&H. Survey. Taylor-Link Oil Co.'s No. 1 Williamson, 150 feet north and west of SE cor. NW Section 105, E.T. R.R. Survey. Jordan & Smith's No. 1 R. Pauley, 2,728 feet north and 2,633 feet west of SE cor. of the J. H. Peoples Survey No. 295.

Cooke County

L. Tidwell and others' No. 1 L. A. Crabtree, 150 feet north and 450 feet east of SW cor. of the L. A. Crabtree 77-acre tract out of the J. R. Clark Survey A-227. Danciger Oil & Refining Co.'s No. 11 J. F. Huggins, 450 feet south and 1,650 feet west of the NE cor. of their 75-acre lease out of the S.P.R.R. Survey No. 9, A-982. Shell Petroleum Corp.'s No. 7 Field & Bowers, 450 feet south and east of NW cor. of their 101-acre lease out of the C. Stanley Survey A-904.

Crane County

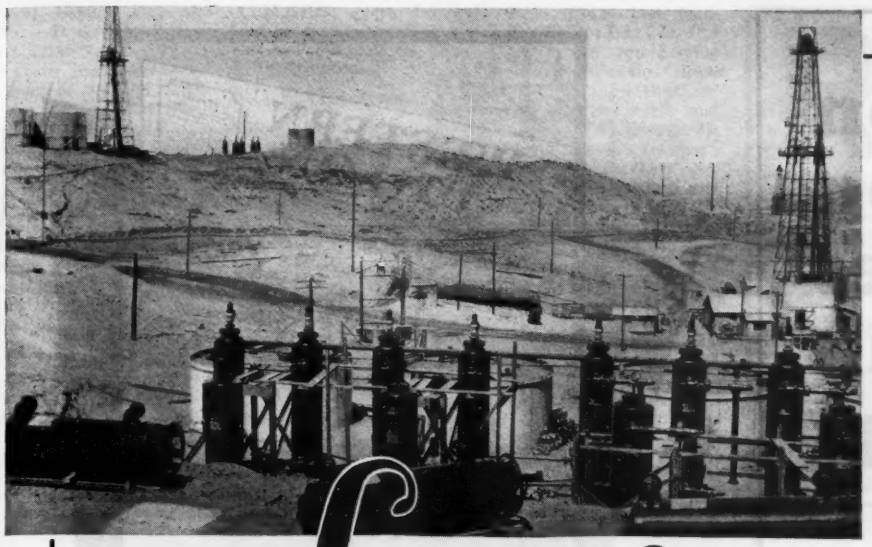
Church & Fields' No. 4 University-Dewell, 2,310 feet north and 990 feet east of SW cor. Section 39, Block 30, University land. Magnolia Petroleum Co. and Hardwick's No. 17 University, 330 feet north and west of SE cor. of the west half of NW Section 39, Block 30, University land. The Texas Company's No. 3 University, 330 feet north and east of SW cor. of the north half of Section 46, Block 30, University land. Same company's No. 2 University-Beasley, 330 feet south and east of NW cor. of the south half of Section 46, Block 30, University land.

Erath County

Mingus Gas Co.'s No. 1 C. R. Alexander, 470 feet north and 400 feet west of SE cor. of the C. R. Alexander 156-acre tract out of the J. M. Espinosa Survey.

Fisher County

Landreth Production Corp.'s No. 2 T. B. Cooper, 330 feet south and west of



A recent installation of Lorraine Traps at Kettleman Hills, California.

Lorraine GAS & OIL SEPARATORS

Write for descriptive catalog, with test and service records.

The Ultimate Choice of Leading Producers.

It is a significant fact that many of the most successful operators in all fields use Lorraine Gas and Oil Separators. Most of these operators have adopted, and standardized on Lorraine separators after exhaustive tests in comparison with other types.

The Lorraine Separator is conveniently portable and easy to install. It attains remarkable efficiency and increases production by allowing a steady, natural flow of oil at all times and by recovering all the gas.

Lorraine Separators automatically control the constantly varying gas pressure and oil flow, which eliminates the personal element in the care of a flowing well without running the risk of killing the well.

They have proved their superior quality, efficiency and economy in practically every field in the world.

THE LORRAINE CORP.
MANUFACTURERS AND DISTRIBUTORS
OIL WELL SPECIALTIES
115th and Alameda Streets
Los Angeles, Calif.

Mid-Continent Distributors:
The National Tank Co., Tulsa, Okla.

Sturdy *in every part*

Kennedy products are handled by wholesalers everywhere, and ample stocks are maintained for prompt delivery.

NOTE the sturdy proportions of body, bonnet, flanges, stem, stuffing box and bolts of this Kennedy 1600-lb. test pressure Kennedy Gate Valve. This type is one of the Kennedy line for service in the oil industry, including also 400-lb., 700-lb. and 1000-lb. test pressure gate valves, as well as a wide range of low pressure, standard pressure and extreme pressure globe and gate valves for every producing, refining and pipe line service, and a complete line of standard cast iron flanged fittings and malleable iron screwed fittings.

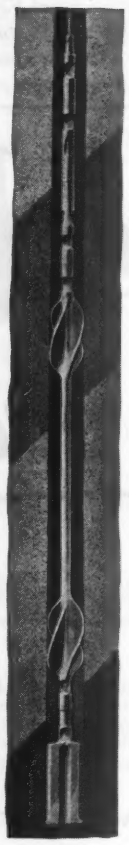
Send for the Kennedy Catalog

THE KENNEDY VALVE MFG. CO., Elmira, N. Y.
Branches in principal cities.

KENNEDY
VALVES-PIPE FITTINGS-FIRE HYDRANTS

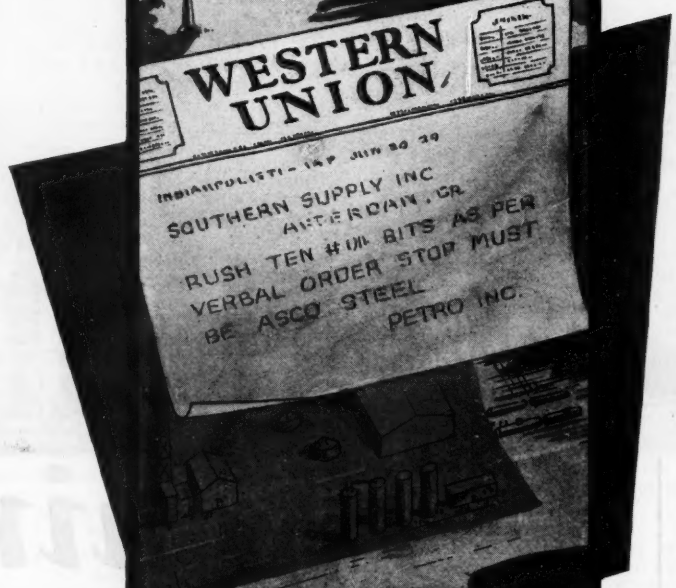
The question of elimination of crooked holes is foremost in the minds of operators.

Use spiral stems manufactured by the Titusville Forge Co., and you will eliminate this question once and for all.



Jaques Drilling Connections

TITUSVILLE FORGE COMPANY
TITUSVILLE, PENN.



THE ANSWER
to the drillers' demands!

It is said an "Ideal" is never obtained—that it is something mythical—too perfect to be within reach of mankind.

Yet the drillers' ideal may be reached with a bit made from ASCO Well Bit Tool Steel—steel which causes the driller to cast aside worry about rock formations.

ASCO Well Bit Tool Steel is made to stand the gaff under the most severe strains, thereby giving the assurance of continuous drilling without fear of tool or labor loss.

When the going gets tough, try a bit made from ASCO Well Bit Tool Steel—watch the results—note the difference.

THE ANDREWS STEEL CO.
NEWPORT ASCO KENTUCKY

NE cor. Section 116, Block 1, H.&T.C. Survey. Roeser-Pendleton and Amerada's No. 1 First National Bank of Waco, 660 feet north and 600 feet west of SE cor. NE Section 204, B.B.B.&C. Survey.

Glasscock County

Sun Oil Co.'s No. 4 Hart Phillips, 330 feet north and 990 feet west of SE cor. Section 14, Block 33, Township 2s, T.&P. Survey.

Howard County

Continental Oil Co.'s No. 4 Kloh & Rumsey, 2,310 feet south and 1,650 feet west of NE cor. Section 13, Block 33, Township 2s, T.&P. Survey. Same company's No. 5 Kloh & Rumsey, 2,310 feet south and 990 feet west of NE cor. Section 13, Block 33, Township 2s, T.&P. Survey. Godley Oil Co.'s No. 2 A. J. Hooks, 1,980 feet south and 200 feet east of NW cor. Section 140, Block 29, W.& N.W.R.R. Survey.

Jack County

E. J. Stump and others' No. 1 Worthington-Knox L. & C. Co., 2,050 feet southwest of NE line and 1,000 feet northwest of SE line of S.A.&M.G. Survey A-590. L. C. Harper's No. 6 Mrs. M. Leffel-Box, 6,100 feet south and 6,150 feet east of NW cor. of I. Hughson Survey A-256, being 150 feet north and west of SE cor. of his 20-acre lease. L. C. Harper's No. 7 Mrs. M. Leffel-Box, 5,300 feet south and 5,750 feet east of NW cor. of I. Hughson Survey A-256, being 150 feet south and 240 feet east of NW cor. of his 20-acre lease.

Mitchell County

Gibson & Johnson's No. 1 W. T. Scott and others, 150 feet south and east of NW cor. Section 14, Block 17, S.P.R.R. Gibson & Johnson's No. 2 W. T. Scott and others, 150 feet north and 2,490 feet west of SE cor. Section 7, Block 19, Lavaca Navigation Co. Survey. Gibson & Johnson's No. 3 W. T. Scott and others, 150 feet south and 2,490 feet west of NE cor. Section 11, Block 19, Lavaca Navigation Co. Survey.

Montague County

Barnsdall Oil Co.'s No. 2 R. W. Cunningham and others, 1,350 feet south and 1,025 feet east of NW cor. of the L. B. Norton Survey A-574, being 150 feet south and west of NE cor. of their 22.5-acre lease. Bridwell Oil Co.'s No. 9, Mrs. E. C. Edmondson, 960 feet north and 150 feet west of SE cor. of the north 15 acres of the Mrs. E. C. Edmondson 96.5-acre tract out of the T. R. Edmondson Survey A-222.

Palo Pinto County

Brazos River Gas Co.'s No. 3 I. H. Wharton, 1,900 feet south and 600 feet east of the NW corner of the I. H. Wharton 200-acre tract out of the George Green Survey A-207. Texas Pacific C. & O. Co.'s No. 162 S. J. Stuart and others, 1,450 feet south and 1,075 feet west of the NE cor. Section 71, Block 4, T.&P. Survey.

Pecos County

Condor Oil Co.'s No. 1 Wangerin Estate, 150 feet south and west of the NE cor. Section 52, Block 11, H.&G.N. Survey. Continental Oil Co.'s No. 2 University-A, 330 feet south and 1,680 feet east of the NW cor. Section 6, Block 17, University Land. Same company's No. 3 University-A, 330 feet south and 2,371 feet east of the NW cor. Section 6, Block 17, University Land. Same company's No. 4 University-A, 330 feet south and east of the NW cor. Section 6, Block 17, University Land. Same company's No. 5 University-A, 330 feet south and 1,020 feet east of the NW cor. Section 6, Block 17, University Land. Same company's No. 6 University-A, 330 feet south and 3,031 feet east of the NW cor. Section 6, Block 17, University Land. Landreth Production Corp.'s No. 1 J. C. and D. H. Cunningham, 235 feet south and 175 feet west of the NE cor. of the S half Section 32, Block 11, H.&G.N. Survey. Same corporation's No. 2 University-D, 330 feet north and west of the SE cor. SW SW, Section 31, Block 16, University Land. Same corporation's No. 3 University-D, 330 feet north and east of of the SW cor. Section 31, Block 16, University Land. Landreth Prod. Corp. and others' No. 1 Ely Smithpeter, 330 feet north and 280 feet west of the SE cor. Section 31, Block 11, H.&G.N. Survey. Landreth Prod. Corp. and Dunning's No. 1 J. A. McDonald, 330 feet north and east of the SW cor. Section 40½, Block 12, H.&G.N. Survey. Landreth Prod. Corp. and Henshaw Brothers' No. 1 University-G, 330 feet north and east of the SW cor. SE SW, Section 31, Block 16, University Land. Landreth Prod. Corp. and Henshaw Brothers' No. 2 University Land-G, 330 feet north and west of the SE cor. SE SW, Section 31, Block 16, University Land. Landreth Prod. Corp. and Henshaw Brothers' No. 3 University-G, 330 feet south and west of the NE cor. SE SW, Section 31, Block 16, University Land. Rector Oil Co.'s No. 1 State Land, 330 feet north and west of the SE cor. Section 106, Block 8, H.&G.N. Survey. Taylor-Link Oil Co.'s No. 8 University, 330 feet north and 2,310 feet west of the SE cor. Section 31, Block 16, University Land. Same company's No. 9 University, 990 feet north and 2,310 feet west of the SE cor. Section 31, Block 16, University Land. The Texas Company's No. 2 J. A. McDonald, 330 feet north and 775 feet west of the SE cor. SW, Section 46, Block 12, H.&G.N. Survey.

The California Co.'s No. 5 M. A. Smith, Lease 1, Section 37, 1,761 feet south and 330 feet west of the NE cor. Section 37, Block 194, G.C.&S.F. Survey.

Shackelford County

E. P. Campbell and others' No. 1 R. Hennesy-B, at the center of the west half of the SE of Section 86, Block 13, T.&P. Survey. S. B. Owens and others' No. 2 W. Y. and R. A. Davis-A, 660 feet north and 200 feet west of the SE cor. SW NE, Section 15, Block 14, T.&P. Survey. Moutray Oil Co.'s No. 1 J. H. Nail, 1,320 feet north and 660 feet west of the SE cor. Section 40, Block 10, E.T.R.R. Survey.

Stephens County

Conway Brothers' No. 13 J. W. Harmon, 737 feet south and 1,024 feet west of the most easterly NE cor. of the J. W. Harmon 260-acre tract out of Section 51, Block 6, T.&P. Survey.

Upton County

Texas Pacific Coal & Oil Co.'s No. 14 J. F. Lane-A, 990 feet north and 2,310 feet west of the SE cor. Section 5, G.C&S.F. Survey, A-213.

Wichita County

Hi-Land Oil Co.'s No. 3 R. L. Crudup, 937 feet south and 450 feet east of the NW cor. Section 10, Denton County School Land, League 4, A-417. Magnolia Petroleum Co.'s No. 16 J. W. Donehoo, 446 feet south and 150 feet east of the NW cor. of their 80-acre lease out of the J. W. Robertson Survey A-252. Star Drilling Co.'s No. 2 R. L. Crudup-B 637 feet south and 450 feet east of the NW cor. Section 10, Denton County School Land, League 4, A-417. Akin & Rayzor's No. 2 S. B. Burnett and others, 150 feet south and 200 feet west of the NE cor. of the east 40 acres of the south 80 acres of the north 200 acres of the west half of Section 4, H.T.&B. Survey, A-752. Arkansas Fuel Oil Co.'s No. 21 Kemp & Kempner, 700 feet south and 150 feet west of the SE cor. Block 81, Kemp Wichita Valley Land and located in Block 82. British American O. P. and others' No. 12 Kemp & Kempner, 150 feet south and 1,600 feet west of the NE cor. Block 49, Kemp Wichita Valley Land. Comac Oil and Prairie Oil & Gas Co.'s No. 1 M. P. Bishop-C, 919 feet north and 150 feet east of the SW cor. of the L. Netherly Survey A-240. Cunningham & Pennell's No. 1 E. E. Goetze, 450 feet south and 150 feet east of the most westerly NW cor. Section 2, G.C.&S.F. Survey, A-601. T. F. Hunter No. 9 J. L. and T. J. Waggoner-C, 570 feet south and 450 feet east of the NW cor. of the H. George Survey A-454.

W. B. Omohundro and others' No. 1 W. H. Chilson-E, 840 feet north and 1,030 feet west of the SE cor. Section 7, Denton County School Land, League 4, A-417. Omohundro and others' No. 1 Pace-B, 150 feet north and 450 feet east of the SW cor. of the south 40 acres of the north 187.5 acres of the J. R. Pace 347-acre tract out of the R. J. Scott Survey A-255. G. R. Ridgeway's No. 1 H. C. Obenhaus, 1,320 feet south and 150 feet east of the NW cor. Section 276,

RYERSON

IMMEDIATE SHIPMENT FROM STOCK

Bars, Plates, Rivets, Tool Steel, Shapes, Sheets, Bolts, Welding Rods, Structurals, Tubes, Wire, Concrete, Reinforcing, Rails, Pipe, Turnbuckles, Alloy Steel, Ascoloy, Small Tools, Machine Tools, etc.

Write for the Ryerson Journal and Stock List

JOSEPH T. RYERSON & SON INC.

Chicago Milwaukee St. Louis Cincinnati Cleveland Detroit Buffalo New York Boston

Tulsa Office: 410 Atlas Life Bldg.

STEEL

Houston Office: D. S. Mair 505 Esperson Bldg.

Ross-Meehan Foundries

Manufacturers

"Electric Steel Castings—Electrically Annealed," "Certified Malleable Iron Castings," "Meehanite Metal Castings," Gray Iron Castings, and Special Analysis Castings.

For

Oil Producers and Refiners

River Clamps a Specialty

Chattanooga, Tenn., U.S.A.

Bubble Towers

THE M. W. KELLOGG CO.

225 Broadway - - New York

Houston, Texas . . . 1514 Petroleum Bldg.
Tulsa, Okla. . . . . Philtower Bldg.
Los Angeles, Cal. . . . 1031 So. Broadway

NATIONAL PETROLEUM ENGINEERING COMPANY

Engineers & Geologists

TULSA, OKLAHOMA

APPRAISALS REPORTS-COMMERCIAL & TAX

SURVEYS ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

WALTER J. PODBIELNIAK—PAUL M. RAIGORODSKY

Consulting Engineers

Philtower Bldg., Tulsa, Okla. Tel. 4-7258

NATURAL GASOLINE PLANT DESIGN AND OPERATION

ANALYTICAL AND RESEARCH LABORATORIES

FRACTIONAL DISTILLATION ANALYSIS

ACME DRILLING & FISHING TOOLS
SEAL OF QUALITY

ACME
POINTS TO EXPERIENCE—
EXPERIENCE POINTS TO
ACME
DRILLING AND FISHING TOOLS
Acme Fishing Tool Co., Parkersburg, W. Va.
Export Office: 136 Liberty St., New York
Stores in the principal fields.

DART UNIONS and FLANGES
Two Bronze Seats
May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."

E. M. Dart Mfg. Co., Providence, R. I.
The Fairbanks Co.,—Distributors

MYERS SELF-OILING BULLDOZER
POWER PUMPS AND WATER SYSTEMS
In the East—in the West—in the North—in the South—Myers Self-Oiling Bulldozer Power Pumps and Water Systems are demonstrating through thousands and thousands of installations their superiority for dependable, economical and long-time service. There is a style and size for every purpose. Tell us of your water problems—we will be glad to help you solve them. Write us direct, or ask your jobber or supply house for catalog and information.
THE F. E. MYERS & BRO. CO. Ashland, Ohio
ASHLAND PUMP AND HAY TOOL WORKS

—all purpose
OIL SHOES
These shoes are the most popular and exclusively used *Safety Shoes among oil refiners.* The E. Z. WALKING WOODEN SOLE keeps the feet dry, warm or cool as the wood is non-conductive.
The leather uppers are especially tanned to resist acid and water. REECE has a guaranteed counter, padded insole and full leather gusset. They are not only comfortable and economical shoes, but prevent injury and possible sickness.
Reece Wooden Sole Shoe Co., Inc.
Columbus Nebraska
—Write for a Sample

Waggoner Colony Subdivision. Ryan Petroleum Corp.'s No. 110 G. L. Nance, 2,280 feet north and 1,670 feet east of the SW cor. of the S. O. Fowler Survey A-78. Turman Oil Co.'s No. 16 Waggoner, 200 feet north and 390 feet west of the SE cor. of their lease out of Section 148, H.&T.C. Survey, A-784. Turner and Consolidated Oil Co.'s No. 1 Barton, 150 feet south and east of the NW cor. of the south half of Lot 4, Section 1, F. Peterswick Survey A-244.

Wilbarger County

Consolidated Oil Co.'s No. 1 Waggoner-T, 150 feet south and west of the NE cor. E half SE, Section 23, Block 4, H.&T.C. Survey. Fain-McGaha Oil Corp.'s No. 14 W. T. Waggoner-L, 1,095 feet north and 205 feet west of the SE cor. of their lease "L" out of Section 31, Block 4, H.&T.C. Survey. Same corporation's No. 19 Waggoner-W, 440 feet north and 300 feet east of the SW cor. of their lease "W" out of Section 32, Block 4, H.&T.C. Survey. Golding-Cochran and others' No. 2 W. T. Waggoner-K, 205 feet north and west of the SE cor. SW NW, Section 4, Block 17, H.&T.C. Gray Back Development Co.'s No. 1 Waggoner-King, 150 feet north and east of the SW cor. S half NW NW, Section 36, Block 2, H.&T.C. Survey.

Ward County

Atlantic Oil Producing Co. and Delmar Oil Co.'s No. 4 S. F. Hayzlett, 2,490 feet southeast of the NW line and 1,470 feet northeast of the SW line of Section 17, Block 5, H.&T.C. Survey. Same company's No. 5 Hayzlett, 2,420 feet southwest of the NE line and 2,050 feet northwest of the SE line of Section 17, Block 5, H.&T.C. Survey. Shipley and others' No. 4 Hayzlett, 2,050 feet northwest of the SE line and 2,420 feet northeast of the SW line, Section 17, Block 5, H.&T.C. Survey.

Young County

Bridwell Oil Co.'s No. 3 Cullers, 150 feet south and 450 feet east of the NW cor SW SE, (A-2,166), Section 2, C.T.R.R. J. Bundy and others' No. 1 C. W. Johnson, 150 feet north and 750 feet east of the SW cor. Section 10, Edward Sergeant Survey A-253. Sorrels & Jackson's No. 1 J. T. Lowe, 783 feet south and east of the NW cor. NE, Section 59, T.E.&L. Survey. T. Terrell's No. 1 J. F. Larimore, 150 feet south and east of the NW cor. NE, Section 253, T.E.&L. Survey. United Producers Co.'s No. 1 A. M. Kunkel and others, 150 feet north and 1,550 feet east of the SW cor. of the H. O. Kunkel 252-acre tract out of the G. W. Stell Survey A-256, being 150 feet north and west of the most southerly SE cor. of their 63.8-acre lease. Wise & Jackson's No. 2 F. M. Cullers, 150 feet north and east of the SW cor. NW SE, (A-2,166), Section 2, C.T.R.R. Survey.

Corrections

In Wilbarger County: Fain-McGaha Oil Corp.'s No. 13, W. T. Waggoner-L, 655 feet north and 205 feet east of the SW cor. of their 200-acre lease out of Section 31, Block 4, H.&T.C. C. J. Ferguson and others' No. 1 W. T. Waggoner, 150 feet north and 50 feet east of the SW cor. NE of the southwest 160 acres of Section 36, Block 4, H.&T.C. Staley-Wynne & Co.'s No. 6 W. T. Waggoner-B, 205 feet north and 205 feet east of the SW cor. NW SE, Section 25, Block 4, H.&T.C. Staley-Wynne & Co.'s No. 8 W. T. Waggoner-F, 153 feet north and 135 feet east of the SW cor. E half SE, Section 3, Block 4, H.&T.C.

KENTUCKY-TENNESSEE

(Continued from Page 76)

hole should reach the sand at most any time, as at last accounts it had reached 1,550 feet, or about 100 feet above the Mississippian or what is known as the McCloskey sand. Joining the Bandy tract is the Arch Parker lease of 11 acres, where a hole which is about 700 feet from the Bandy well is being put down by George H. Snyder and others, of Hopkinsville. This well is down around 1,000 feet.

Eight wells are drilling at present, six wells on the pump, and additional rigs are coming into the field. Real development has now begun, and favorable progress should be rapid.

Webster County Gasser

An excellent gas well has been drilled in by E. W. Wilson, on the Mart Rideout farm, a mile northeast of Sebree, in Webster County, near the Henderson County line, showing 1,500,000 feet. This is the No. 2 on the Rideout farm and is within a half mile of the Craig & Lowry gas well brought in a year ago, one of the largest in the Sebree Field. The Rideout well will be completed as a gas well, and will be used to supply the city of Henderson with natural gas. Gas was encountered at a depth of 520 feet, and is thought to be the same gas vein drilled into the Niagara over a month ago by H. Z. Clark, representing the Wittmer Oil & Gas Co. The Clark well has a volume of 2,500,000 feet.

Evans & Garrison report their big well on the Davis heirs, in the Red Hill district of Daviess County, was producing 300 bbls. a day after more than two weeks old. This was No. 2. No. 1 proved a heavy gas producer when drilled in. Same parties are drilling a second well on the Leo Clark farm, in the Utica Pool, same county.

J. B. Morrison, a veteran oil man of Tulsa, has been looking over the oil situation in western Kentucky, making his headquarters at Owensboro. He was entertained by Kentucky operators who know him in the Mid-Continent Field.

Daviess County's oil production for the month of August as compiled by the figures of the two pipe lines operating out of the Owensboro Field was 78,111.44 bbls., which brought the operators and leaseholders $142,943.99, less $714.71 which went for state taxes. The Producers Pipe Line Co. handled 30,877.22 bbls., while 47,234.22 bbls. passed through the pipe line of the Illinois Pipe Line Co.

W. V. Wilson, contractor, has unloaded a rig at Lewisburg, which will be set up on a location on the Grass farm east of Lewisburg, in the northwestern part of Logan County, not far from the Butler County line.

G. W. White, of Elmwood, Ohio, is drilling 3 miles north of Russellville, the county seat of Logan County. The well is on the Smitherman farm. A gas pocket was found at 185 feet and at last reports the drill had reached 650 feet.

H. A. Michener, of the Krueger interests at Russellville, Logan County, Kentucky, according to advice, has tested practically 30,000 acres of asphalt land in that section of Kentucky during the past summer. More than 300 diamond drill holes were made amounting to almost 20,000 feet of core drilling. Elevations have been run and contours have been worked out over all this acreage. Some wells may be drilled to test the territory in the near future.

Logan and Todd Counties

Uncle "Bob" Holmes, an old-timer in the Casey, Ill., Field, has contracted to drill three holes on a 22,000-acre block of leases in western Logan County and eastern Todd County. He would have started in July but he has been seriously ill.

H. J. Owen and J. E. Wilcox, geologists, formerly with the Ohio company, are stationed at Russellville. Along with H. A. Michener they have worked on a structure that goes down through the 22,000 acres of Uncle "Bob" Holmes. The main structure is from the northeast to the southwest and was worked out years ago and given the name of the Ripley Clairborne anticline. The northeast nose of this structure makes the old Diamond Springs gas field.

The Missouri-Kansas Pipe Line Co. has a block of thousands of acres in Todd, Logan and Muhlenberg Counties.

An important find was made in Daviess County, 12 miles southeast of Owensboro, by Wade & Moore on the F. L. Bowman lease, in the vicinity of the Jones Pool. The McCloskey sand was found in this well at close around 1,200 feet. The well bailed 15 bbls. in two hours at only 6 feet in the sand. It is now being deepened and may bring about the drilling of a great many older wells in that area if the Bowman proves a commercial producer in this formation.

—*but after all's said and done,*

—the popularity—the value—the following or the productiveness of anything is judged by its use and how many use it.

The Oil and Gas Journal carries more advertising space by week—by month—by year—has more advertising clients and exclusive advertisers than any other nationally distributed petroleum paper.

Need more be said?

If you have any product used in Production—Pipeline—Refining—Natural Gasoline or Engineering—Concentrate your petroleum industry advertising in The Oil and Gas Journal—it reaches all worth while buyers.

For——

The Oil and Gas Journal has the LARGEST NET PAID CIRCULATION 16,393

The OIL and GAS JOURNAL

PRODUCING REFINING ENGINEERING MARKETING

TULSA, OKLAHOMA

NEW YORK C. L. Cain 101 Park Ave.

PITTSBURGH, PA. A. E. Loeffler State Theatre Bldg.

CHICAGO L. Austin de Vore Peoples Gas Bldg.

LOS ANGELES C. R. Johnson Petroleum Securities Bldg.

Detailed Operations in All Fields for Month of September

SUMMARY OF ALL FIELDS
Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	603	3,200	49	55
Central Ohio	139	829	39	60
Lima	23	221	3	3
Indiana	9	100	4	2
Michigan	47	5,881	15	3
Illinois	77	2,810	10	0
Kentucky	146	8,791	48	5
Mississippi	1	....	1	0
Oklahoma	274	77,934	95	20
Kansas	87	13,690	45	2
Texas Panhandle	55	16,405	7	16
No. Central Texas	293	29,502	140	9
East Central Texas	6	....	5	1
West Texas	78	274,436	32	3
Southwest Texas	100	15,212	51	9
East Texas	6	....	0	6
Gulf Coast	101	36,738	35	4
North Louisiana	60	6,610	18	25
Arkansas	29	984	12	1
Wyoming	24	3,821	9	4
Montana	51	1,268	11	10
Colorado	11	....	9	2
New Mexico	22	3,110	12	0
Utah	2	....	2	0
Total Sept.	2,244	501,542	652	240
Total Aug.	2,578	351,241	715	256
Difference	334	150,301	63	16

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	123	485	608
Central Ohio	79	186	265
Lima	5	31	36
Indiana	4	51	55
Michigan	61	140	201
Illinois	3	50	53
Kentucky	10	176	186
Tennessee	3	12	15
Mississippi	3	14	17
Alabama	0	5	5
Oklahoma	171	792	963
Kansas	63	288	351
Texas Panhandle	31	162	193
No. Central Texas	88	417	505
East Central Texas	2	34	36
West Texas	72	268	340
Southwest Texas	40	169	209
East Texas	6	17	23
Gulf Coast	49	233	282
North Louisiana	55	112	167
Arkansas	14	58	72
Wyoming	26	156	182
Montana	16	113	129
Colorado	16	76	92
New Mexico	21	71	92
Utah	2	29	31
Total Sept.	963	4,145	5,108
Total Aug.	920	4,180	5,100
Difference	43	35	8

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carter	4	251	1	0
Cotton	8	643	2	0
Creek	26	1,734	11	0
Hughes	7	75	3	3
Muskogee	8	83	2	3
Okfuskee	14	706	5	2
Okmulgee	14	212	7	0
Osage	23	2,842	7	2
Pawnee	4	80	3	0
Pontotoc	4	303	1	0
Pottawatomie	47	32,336	9	1
Seminole	50	33,959	13	2
Stephens	18	428	4	2
Wagoner	7	130	2	1
Miscellaneous	40	4,152	25	4
Total September	274	77,934	95	20
Total August	293	65,205	109	30
Difference	19	12,729	14	10

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Beckham	0	5	5
Carter	3	13	16
Cotton	4	5	9
Creek	14	65	79
Grady	1	4	5
Grant	2	10	12
Hughes	2	13	15
Kay	1	6	7
Kiowa	1	4	5
Logan	0	18	18
Muskogee	7	19	26
Oklahoma	33	82	115
Okfuskee	5	32	37
Okmulgee	4	26	30
Osage	10	28	38
Pawnee	3	16	19
Payne and Lincoln	3	29	32
Pontotoc	6	24	30
Pottawatomie	18	83	101
Seminole	41	198	239
Stephens	4	26	30
Tulsa	1	9	10
Wagoner	2	10	12
Miscellaneous	6	67	73
Total September	171	792	963
Total August	159	790	949
Difference	12	2	14

WELLS COMPLETED
CARTER COUNTY

18-1s-3w Hardin, Magnolia Pet. Co. 6 . dry
20-1s-3w Denny, Ven Mex Oil Co. 1... 148
32-1s-3w Johnson, Magnolia Pet. Co. 1. 43
10-4s-2w Walker, Simpson & Fell 6 ... 60

Wells completed 4
Production 251
Dry 1

COTTON COUNTY

34-1s-10w Smith, Perkins & Cullum 4... 10
2-2s-10w Slogan, Shasta Oil Co. 1 108
29-4s-11w Payne & McGaha 1 ..... dry
35-1s-10w Rhone, Baldwin & Sultan 2.. 175
Rhone, Baldwin & Sultan 3.. 150
Chambers, Wirt Franklin Pet. Corp. 1 95
2-2s-10w Slogan, Shasta Oil Co. 2..... 105
Chambers, Silurian Oil Co. 8. dry

Wells completed 8
Production 643
Dry 2

CREEK COUNTY

26-14-9 Williams, Pioneer Oil Co. 1 .. 12
6-14-10 Cappeau, Fuhrman Pet. Co. 1 dry
McKee, W. H. Elson et al 1. dry
18-16-9 Durant, Carter Oil Co. 7 .... dry
17-18-7 W. Starr, Silurian Oil Co. 28. 50
3-18-9 Moore, Flynn, Morgan et al 1 dry
17-19-9 Holmes, Superior Oil Corp. 1. 30
28-19-9 Bartlett, William Sherry et al 1 ..... dry
10-19-11 Tahledge, Wells et al 3 ..... dry
14-17-10 Baker, The Texas Company 2 30
17-16-9 Beaver, T.P.C.&O. Co. 8 15
18-16-9 B. Durant, Carter Oil Co. 1..1016
10-17-9 McMahon, Prairie O. & G. Co. 3 30
20-19-9 Houston, Phillips Pet. Co. 2.. 25
31-19-9 Cates, Gled Oil Co. 2 ..... dry
27-17-7 Renfrow, Mid-Continent Pet. Corp. 5 ..... dry
28-17-7 Keys, Sinclair O. & G. Co. 23. 20
30-17-11 Hardridge, McCready et al 2. dry
18-16-9 Durant, Selby O. & G. Co. 7.. 350
8-16-9 I. Roberts, Prairie O. & G. Co. 4 100
26-18-9 Walker, Beal & Plumb 2 20
19-18-11 Maloney, S. P. Smith et al 3.. 3
27-17-7 Lewis, Magnolia Pet. Co. 11.. 15
18-16-9 Durant, Carter Oil Co. 7..... dry
16-16-10 Hunt, Ed O'Rourke et al 1 18
Patrick, West Virginia Drlg. Co. 2 ..... dry

Wells completed 26
Production 1734
Dry 11

HUGHES COUNTY

14- 8-9 Long, Gypsy Oil Co. et al 1-A dry
25- 8-11 Smith, McGee Brothers 1 .... dry
21- 9-10 R. Buck, Fuhrman Pet. Co. 3. gas
6- 8-9 Welch, W. B. Pine 1 ..... gas
21- 9-10 Buck, Fuhrman Pet. Co. 2 ... gas
21- 7-8 Street, Holm & Jarvis 3 75
7- 8-9 Cheparney, Prairie O. & G. Co. 1 ..... dry

Wells completed 7
Production 75
Dry 3
Gas 3
Gas production 50,750,000

MUSKOGEE COUNTY

23-13-18 Jordan, H. D. Johnson et al 1 gas
24-13-18 Kelly, E. Mills et al 1 ..... gas
8-15-15 Barnett, Babcock Bros. 6 ... 8
21-15-15 Lovett, J. R. Parks 1 ..... dry
14-14-16 Cherry, J. E. Neely 11 ..... dry
4-15-15 Simmons, Bryan Pet. Co. 1-A 60
8-15-15 Barnett, Bryan Pet. Co. 9 15
14-13-18 Jordan, E. Mills et al 1 ..... gas

Wells completed 8
Production 83
Dry 2
Gas 3
Gas production 5,000,000

OKFUSKEE COUNTY

25-11-10 Jimboy, Pure Oil Co. 1 ..... dry
13-11-11 Barnett,E. W. Kimbley 1 .... dry
31-11-11 Dindy "B," Mid-Continent Pet. Corp. 2 55
29-12-10 Campbell, Champlin O. & R. Co. 1 147
22-12-11 Wilson, C. M. Sheldon Oil Co. 1 180
15-11-11 Jacobs, Champlin O. & R. Co. 13 6
31-11-11 D. Dindy "C," Mid-Continent Pet. Corp. 2 ..... gas
22-10-11 Lowe, Independent O. & G. Co. et al 1 ..... dry
29-12-10 Monarye, Producers & Refiners Corp. 1 8
2-10-11 Johnson, F. D. Misner 1 ..... dry
31-11-11 Dindy, Sunray Oil Corp. 1-A. 265
Grayson, Minnehoma Oil Co. 2 45
9-10-11 Barnett, R. W. Vierson et al 1 ..... dry
16-10-11 Fier, Jarvis & Holm 2 ..... gas

Wells completed 14
Production 706
Dry 5
Gas 2
Gas production 35,000,000

OKMULGEE COUNTY

24-14-12 Holcomb, L. M. Levine et al 1 dry
3-15-11 Adams, Jackson & Wise 10.. 15
6-15-12 Fish, L. C. Wheeler et al 2... dry
9-15-12 Bighead, W. B. Pine et al 4.. 145
35-15-12 Chamberlain, Devonian Oil Co. 1-A ..... dry
3-15-11 Salee, Sheridan Oil Co. 2 5
17-15-13 Brooks, Kirkland & Son 4 8
10-15-14 Lowery, Misner & Mid-Continent Pet. Corp. 2 15
10-15-14 Rowe, Forman & Wise 6 .... dry
11-15-14 Rentie, Lavery et al 1-A 12
20-14-13 Lewis, Pal Oil Co. 2 ..... dry
24-14-12 Holcomb, I. L. Levine 1 ..... dry
28-13-13 Mickens, Kessler Pet. Co. 2.. 12
7-13-15 Steiger, E. J. Lambert 1 .... dry

Wells completed 14
Production 212
Dry 7

OSAGE COUNTY

3-23-8 W. D. Gray et al 1 30
15-24-8 McCune, Wormser et al 2 ...1780
22-27-11 Peters Pet. Corp. and Producers & Refiners Corp. 2.. 100
32-29-12 Jennings Oil Co. 1 5
29-28-11 Osage Gas Producers Co. 394. gas
23-27-5 Phillips Pet. Co. 17 ..... dry
23-23-10 Ray Branstetter et al 1-A ... 40
17-23-12 Silurian Oil Corp. 57 40
22-22-11 Barnsdall Oil Co. and Branstetter 4 20
16-21-9 Moore et al 8 20
28-21-10 Oklahoma Power & Water Co. 116 ..... dry
11-26-8 Producers & Refiners Corp. and Peters Pet. 3 620
11-26-10 Transcontinental Oil Co. 1... dry
20-24-9 Tidal Oil Co. 6 60
25-24-9 Winona Oil Co. 14 5
18-24-12 Harland Oil Co. 50 ..... dry
24-22-11 Oklahoma Natural Gas Corp. 1,718 ..... dry
8-21-9 Ohio Osage Oil Co. et al 1-A. dry
17-27-6 Peters Pet. Corp. et al 12 ... 30
26-25-9 Peters Pet. Corp. et al 11 ... 75
35-25-8 I. T. I. Oil Co. 406 ..... gas
32-23-10 Union Oil & Mining Co. 1 ... 17
28-21-11 White Eagle O. & R. Co. 1 ... dry

Wells completed 23
Production 2842
Dry 7
Gas 2
Gas production 4,000,000

PAWNEE COUNTY

26-20-9 Coats, C. C. Chamberlain 1.. 80
26-20-6 Embry, Magnolia Pet. Co. 1 .. dry
17-20-9 Rigby, Peerless O. & R. Co. and Carter Oil 1 ..... dry
31-21-9 Edmiston, John Byrnes 5 .... dry

Wells completed 4
Production 80
Dry 3

POTTAWATOMIE COUNTY

2- 7-4 Kelly "A," Sinclair O. & G. Co. and McGraw Oil Co. 1..1450
12- 7-4 Harden, Magnolia Pet. Co. 2. 324
16- 7-4 Rhodd, Independent O. & G. Co. and Westland Oil Co. 3. 42
17- 7-4 James, Independent O. & G. Co. 1 1350
24- 7-4 Wilbarn, Magnolia Pet. Co. 6.. 125
25- 7-4 Neeley, Sinclair O. & G. Co. 6 370
6- 7-5 Cummings, Mid-Continent Pet. Corp. 1 ..... dry
36- 8-4 Jackson, Superior Oil Corp. 1. 130
8- 9-5 Songster, Superior Oil Corp. 1 870
Reade, Phillips Pet. Co. 2...1397
Henry, Empire O. & R. Co. and Amerada Pet. Corp. 1..2215
8- 8-5 Smith, W. B. Pine 2 445
Smith, Wilcox O. & G. Co. 6.. 947
9- 8-5 Jordan, Shell Pet. Corp. 1 ...1286
8- 7-4 Crain, Independent O. & G. Co. and Margay Oil Co. 1 ..... dry
9- 7-4 Nixon, Darby Pet. Co. 2 280
15- 7-4 Tartar, Magnolia Pet. Co. 1.. 335
16- 7-4 Burke, Atlantic O. P. Co. 2.. 90
17- 7-4 Reagan, Prairie O. & G. Co. 1.2095
Wyatt, Houston Oil Co. 2 1800
Wyatt, Houston Oil Co. 3 900
Wyatt, Houston Oil Co. 4 .... dry
22- 7-4 Curly, Independent O. & G. Co. & Darby Pet. Co. 1 ... gas
19- 6-4 Laster, Prairie O. & G. Co. & T. B. Slick 6 6135
8- 8-5 Smith, Wilcox O. & G. Co. 7. 395
2- 7-4 Akin, Carter Oil Co. 1 ..... dry
2- 7-4 Kelly, Martin & Erwin 3 ... 486
15- 7-4 Mull, Magnolia Pet. Co. 1 ... 8
16- 7-4 Rhodd, Independent O. & G. Co. & Westland Oil 4 263
Youngblood, Darby Pet. Co. 5 500
17- 7-4 James, Independent O. & G. Co. 2 602
18- 7-4 Light, Warner & Quinlan•Oil 1 100
7- 7-5 Pugh, Magnolia Pet. Co. 1... dry
20- 6-4 Bledsoe, T. B. Slick 2 ..... dry
6- 9-5 Keys, Empire O. & R. Co. 1. 40
7- 9-5 Magruder, Twin State Oil Co. 1 765
36- 8-4 Thorn, Marquette Oil Co. 1.. dry
16- 8-5 School land, I. T. I. Oil Co. 1 dry
1- 7-4 Borrow, Independent O. & G. Co. 4 585
9- 7-4 Booze, Independent O. & G. Co. & Westland Oil 1 48
Robbins, Mid-Continent Pet. Corp. 1 15
16- 7-4 Decker, Skelly Oil Co. 1 1319
Pappan, Independent O. & G. Co. 2 625
Latimer, T. B. Slick & White Eagle O. & R. 2 275
17- 7-4 Rice, Prairie O. & G. Co. 2...1415
19- 6-4 Laster, Prairie O. & G. Co. & T. B. Slick 7 2315
29- 6-4 Pappan, Simms Oil Co. 1 .... dry

Wells completed 47
Production 32,336
Dry 9
Gas 1 1
Gas production 23,000,000

PONTOTOC COUNTY

1- 4-7 Ritchie, Homaokla Oil Co. 4 .. 20
23- 4-8 Hampton, Independent O. & G. Co. 1 ..... dry
30- 5-5 Molly, Benedum & Trees 1 ... 183
1- 4-7 Herman, Dixie Oil Co. 2 100

Wells completed 4
Production 303
Dry 1

SEMINOLE COUNTY

13- 5-7 Fleet, Blackwell O. & G. Co. 2 1450
18- 5-8 T. Peter, Sinclair O. & G. Co. 1 225
Lucy, Burke-Greis Oil Co. 4.. 100
9- 6-7 Thomas, Gypsy Oil Co. 1 .... dry
23- 7-6 Cotcha, Gypsy Oil Co. 18 622
2- 8-5 Rogers, Carter Oil Co. 1 .....dry
12- 8-5 Reed, Amerada Pet. Corp. 1.. 205
13- 9-5 Sarber, J. S. Cosden, Inc., 1.. 69
17- 9-6 Calkins, Prairie O. & G. Co. 1.6380
11- 8-5 Billington, Prairie O. & G. Co. 11 ..... dry
32-10-6 Nevins, Burke-Greis Oil Co. et al 1 905
11- 8-6 Jones, Gypsy Oil Co. 2 70
4- 7-7 Harris, Continental Oil Co. & Shaffer O. & R. Co. 2 ..... dry
Harris, Continental Oil Co. & Shaffer O. & R. Co. 3 1327
22- 7-6 Hotulke, Amerada Pet. Corp. 1 ..... dry
23- 7-6 Hotulke, Shell Pet. Corp. 2-A 508
24- 7-6 Dindy, The Texas Company 1 dry
18- 9-6 Raitman, Prairie O. & G. Co. 2 4520
5- 7-7 Thomas, Producers & Refiners Corp. 2 2215
32-10-6 Nevins, Gypsy Oil Co. 3 310
18- 9-7 Harjo, Devonian Oil Co. 1 ... 30
18- 9-7 Johnson, Continental Oil Co. 4 2549
14- 9-7 Bryan, Pure Oil Co. 2 61
18- 9-6 Raitman, Prairie O. & G. Co. 3 1020
13- 7-6 Davis, Independent O. & G. Co. 6 304
14- 7-6 Tewee, Champlin O. & R. Co. 3 390
Hulhoke, Gypsy Oil Co. 11 ... gas
22- 7-6 Pepper, Pure Oil Co. 1..... dry
Reed, Magnolia Pet. Co. 6 ... dry
Hotulke, Barnsdall Oil Co. 5. dry
23- 7-6 Hotulke, The Texas Company 6 525
Cotcha, Pure Oil Co. 11 575
19- 5-8 Lucy, The Texas Company 12 385
22-10-6 Johnson, Barnsdall Oil Co. 1. 83
32-10-6 Nevins, Gypsy Oil Co. 2 ..... dry
17- 9-6 Sullivan, Amerada Pet. Corp. 1 3540
15- 9-7 Naifeh, Pure Oil Co. 1 ..... gas
18- 9-7 Johnson "B," Sinclair O. & G. Co. 1 110
G. Johnson, Sinclair O. & G. Co. 1 305
B. Coody, Sinclair O. & G. Co. 2 765
5- 8-6 Mission, Gypsy Oil Co. 4 ..... dry
10- 8-5 Tully, Barnsdall Oil & I. T. I. Oil Co. 2 160
11- 8-5 Bean, Sinclair O. & G. Co. 4. 300
11- 7-6 Blanton, Sinclair O. & G. Co. 1 ..... dry
13- 7-6 Davis, Independent O. & G. Co. 7 183
23- 7-6 Harris, Independent O. & G. Co. 10 50
Harris, Independent O. & G. Co. 11 140
Harris, Independent O. & G. Co. 12 618
5- 7-7 Phillips, Sinclair O. & G. Co. 3 2960
34- 7-6 Osborn, Prairie O. & G. Co. 1. dry

Wells completed 50
Production 33,959
Dry 13
Gas 2
Gas production 46,000,000

STEPHENS COUNTY

11- 2-5w Pettigrew, Harris & McNeil 1 5
28-1s-8w Springer, Winkler & McQueen 7 ..... dry
34-1s-8w Nigh, American Pipe Line Co. 9 25
Nigh, Ven Mex Oil Co. & Mid-Continent Pet. Corp. 7. 135
13-2s-8w McMasters, Pace et al 8 40
21-2s-7w Watkins, Pace et al 2 65
4-3s-6w Woolsey, Haynes & Carter Oil Co. 1 ..... dry
34-1s-8w Kagay, Magnolia Pet. Co. 2.. 40
13-2s-8w McMasters, Pace et al 9 20
17- 1-8w Johnson, Fisher & Ballard 1. dry
16-1s-8w Blake, Sykes & Fossett 1 ... gas
34-1s-8w Nigh, Ellis Drlg. Co. 6 20
34-1s-8w Burke, Magnolia Pet. Co. 5 .. gas
Simpson, Lone Eagle Oil Co. 13 12
13-2s-8w Peck, Magnolia Pet. Co. 8 ... 31
35- 1-9w Allen, Denver & Wichita Falls P. L. Co. 1 ..... dry
21-2s-7w Enloe, George Pace 1 35
6-5s-14w Kent, Dean & Adkinson 1.... dry

Wells completed 18
Production 428
Dry 4
Gas 2
Gas production 22,000,000

WAGONER COUNTY

35-16-17 Marshall, Cherokee Public Service Co. 2 15
22-16-19 Vann, C. F. Finefield 7 70
34-17-18 Grayson, H. H. Orr 4 25
36-16-17 Brown, J. L. Dixon et al 2.. gas
15-17-16 Kelly, George Longacre et al 1-A ..... dry
36-16-17 Brown, Cherokee Public Service Co. 2 20
6-17-18 Pitts, Horner et al 2 ..... dry

Wells completed 7
Production 130
Dry 2
Gas 1
Gas production 2,000,000

MISCELLANEOUS COUNTIES
Caddo County—

29- 5-12w Galbreath, W. J. Hartley et al 1 ..... dry

9- 5-9w Bontrager, Caddo Oil Co. 1.. dry
12- 5-9w Rigney, Bullock et al 2 ..... dry
36- 6-10w Rowe, N. Olson 1 125
Comanche County—
4- 1-9w Hawk, Harry Muse et al 1... dry
Grady County—
25- 4-8w Short, Meridian Gas Co. 3... gas
20-5-8w Grady, Ray Oil Co. 1 ..... dry
Garvin County—
16- 1-3w Carnell, Magnolia Pet. Co. 1-B dry
8- 4-2 Halverton, Tidal Oil Co. 1... dry
Coal County—
10- 1-11 Cook, I. T. I. Oil Co. 1 ..... dry
11- 1-8 King, McCraw et al 1 ..... dry
Jackson County—
4- 1-20w Northington, Houseman et al 1 ..... dry.
Jefferson County—
13-6s-7w Fisher, Pearce & Brown 1 ... dry
35-5s-7w Paddock, Nonahan & Porter 1 dry
Kay County—
34-25-1w Beverlin, Comar Oil Co. 3-W dry
25-28-1w Sharp, De Camp et al 1 ... gas
Whitesides, Parrish et al 1.. gas
Kiowa County—
18- 6-16w Foster, George Eshleman et al 1 20
26- 7-16w Geis, Connor & Son 1 ..... dry
22- 3-18w Ballard, D. M. Hyde 1 ..... dry
18- 6-16w Foster, George Eshleman et al 1 30
Major County—
4-23-16w Creech, Wilson et al 1 ..... dry
Logan County—
29-18-4w Gragg, Healdton O. & G. Co. 1 45
30-19-4w McCully, Sheil Pet. Corp. 6..2808
28-18-4w Kanecht, Sinclair O. & G. Co. et al 2 173
17-19-4w Murphy, Sinclair O. & G. Co. 1 ..... dry
19-19-4w Ross "B," Shell Pet. Corp. 3. 35
McIntosh County—
27-11-15 Ireland, Beard & Hammond 6 dry
Noble County—
33-21-1w McCormick, I. T. I. Oil Co. 1 gas
Tulsa County—
2-19-11 Page, White Eagle O. & R. Co. 1 ..... dry
15-19-11 Phillips, Glidden Oil Co. 1... dry
18-19-12 Johnson, Superior Oil Corp. 1. gas
24-19-13 Jensen, North et al 1-A ..... dry
Grant County—
17-29-4w Gibson, Gypsy Oil Co. 1 41
Payne County—
10-18-4 Cole, Deep Rock O. & G. Co. 2 dry
4-18-5 Little Chief, Shaffer O. & R. Co. 2 855
7-18-5 Goss, Twin State Oil Co. 2... 20
Beckham County—
17- 9-22w Seidel, Producers Exp. Co. 1. dry
23- 9-23w Pederson, Pease et al 1 ..... dry
35- 9-22w Abbott, M. T. C. Oil Co. 1-A. dry

Wells completed 40
Production 4152
Dry 25
Gas 4
Gas production 9,937,000

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	8	205	4	0
Cowley	4	182	2	1
Greenwood	24	3,310	12	0
Sedgwick	20	6,763	8	0
Miscellaneous	31	3,230	19	1
Total Sept.	87	13,690	45	2
Total Aug.	107	14,626	41	5
Difference	20	936	4	3

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Butler	6	27	33
Cowley	1	18	19
Elk	0	9	9
Ellis	2	11	13
Greenwood	2	29	31
Harvey	0	10	10
McPherson	5	22	27
Marion	1	12	13
Russell	4	6	10
Sedgwick	8	45	53
Sumner	5	16	21
Woodson	2	13	15
Miscellaneous	27	70	97
Total Sept.	63	288	351
Total Aug.	66	299	365
Difference	3	11	14

WELLS COMPLETED

BUTLER COUNTY

21-26-3 Henrie, Barnsdall Oil Co. 1.. dry
19-26-5 Koogler, Empire O. & R. Co. 84 75
15-25-4 Wilson, Robertson et al 1 ... dry
22-27-5 Willets, Empire O. & R. Co. 8 50
27-27-5 Sharrock, Empire O. & R. Co. 3 40
Hutchinson, Empire O. & R. Co. 8-B 40
10-27-6 Mathewson, Aladdin Pet. Co. 1 dry
36-29-4 De Fore, Empire O. & R. Co. 1 dry

Wells completed 8
Production 205
Dry 4

COWLEY COUNTY

6-30-5 Daniels, A. M. Landon et al 1 dry
16-32-4 Youle, Independent O. & G. Co. & Vickers Pet. 2 ..... dry
12-34-6 Adams, Trees Oil Co. 1 ..... gas
7-33-3 Roberts, Prairie O. & G. Co. 1 182

Wells completed 4
Production 182
Dry 2
Gas 1
Gas production 4,000,000

GREENWOOD COUNTY

22-22-12 Morton, Empire O. & R. Co. & Rhodes 3-A 150
21-23-11 Edwards, Empire O. & R. Co. 4-B 200
28-23-11 Beal, Phillips Pet. Co. 2 700
36-23-11 Patterson, Empire O. & R. Co. 1-C 800
5-23-11 Carson, Parkins et al 1 ..... dry
3-25-10 Hammond, Bitler & Haus 1.. dry
12-24-12 Pees, Prairie O. & G. Co. 1 ... 30
28-22-10 Nicholl, Empire O. & R. Co. 1 dry
15-22-12 Storrer, Theta Oil Co. 1 ..... dry
Norton, Empire O. & R. Co. 2-B ..... dry
36-23-11 Patterson, Empire O. & R. Co. 2-B ..... dry
13-25-10 Anderson, Ward McGinnis 1.. dry
11-22-10 Sheppard, Independent O. & G. Co. 12 75
22-22-13 Pavemire, Braden et al 3 15
21-23-11 Edwards "C," The Texas Company 8 266
22-23-11 Patterson, Simmons & Rhodes 1 600
28-23-11 Beal, Phillips Pet. Co. 3 124
32-23-13 Newman, Sheedy et al 3 ..... dry
26-24-9 Hill, Polhamus & International Oil 1 ..... dry
6-25-9 Carrington "B," Lassen et al 2 50
Olson, Murphy et al 8 ..... dry
9-25-13 Hoggitt, Empire O. & R. Co. 3 300
22-26-8 Stanhope, Tidal Oil Co. 7 ... dry
9-25-13 Webber, Prairie O. & G. Co. 3 ..... dry

Wells completed 24
Production 3310
Dry 12

SEDGWICK COUNTY

1-26-1w Wilson, Skelly Oil Co. & Davis 12 124
12-26-1w Wright, Bu Vi Bar Pet. Corp. et al 5 1400
6-26-1 Benningfield, Aladdin Oil Co. 3 40
7-26-1 Shawver, Bu Vi Bar Pet. Corp. 9 294
24-25-1 Kuske, Barnsdall Oil Co. 1... dry
15-26-2 Community, Shell Pet. Corp. 2 336
31-25-2 Duncan, Tidal Oil Co. 1 ..... dry
15-26-2 Mason, Ramsey et al 3 1200
Lygrisse "B," Shell Pet. Corp. 1 841
23-27-2w Roeder, R. G. Hammond et al 1 ..... dry
20-28-1 Robbins, White Eagle O. & R. Co. 2 275
29-28-1 Worford, Aladdin Pet. Co. & Sullivan 1 ..... dry
13-25-1w Conners, The Texas Company 1 ..... dry
1-26-1w Wilson, Skelly Oil Co. & Davis 13 275
Reed, Bu Vi Bar Pet. Corp. 4 226
12-26-1w Wright, Bu Vi Bar Pet. Corp. 7 897
6-26-2 Duncan, Patton & Wentz 1 ... dry
15-26-2 Tripp, Kennedy et al 1 855
28-28-1 Blood, Derby Oil Co. 1 ..... dry
29-28-1 Van Arsdale, Smith & Ash 1. dry

Wells completed 20
Production 6763
Dry 8

MISCELLANEOUS COUNTIES

Harvey County—
26-22-2 Neiman, E. W. Marland, Inc., 1 ..... dry
Elk County—
12-30-9 Brown, The Texas Company 1 dry
Kingman County—
18-29-5w Kincain, Gypsy Oil Co. 1 .... dry
McPherson County—
9-21-3w Voshell, Washaugh et al 1 30
Marshall County—
10- 3-7 Cooper, Irwin Brothers 1 .... dry
Lyon County—
1-19-2 Schully, Empire O. & R. Co. 1-B ..... dry
30-21-3 Skiles, Howarth & Stoddard 1 dry
27-21-11 Martindale, B. B. Blair 1 ... dry
Dickson County—
26-16-3 Morgan, Prairie O. & G. Co. 1 dry
Marion County—
32-18-2w Lindberg, Merriman & Shidell 1 ..... dry
34-18-2 Schully, Shell Pet. Corp. 1... dry
7-19-3 Ewert, Tidal Oil Co. 2 30
Ellis County—
20-11-17w Hadley, Burgher et al 1 60
9-13-19w Johnson, Phillips Pet. Co. 1.. 100
8-12-17w Heidler, Phillips Pet. Co. 1 .. dry
1-13-16w Weiland, Davis, Hazlett et al 3 103
Jackson County—
27- 7-15 Lutes, Garvin & Norton 1.. dry
Chase County—
24-21-9 Hugh, Chriss Sheedy 1-B 30
35-21-9 Leighty, Selby O. & G. Co. 8. 10
Rush County—
27-17-17w Scheverman, Valerius et al 1 gas
22-17-7w Schwendt, Danciger et al 1.. dry
21-17-17w Brock, Barnsdall Oil Co. 1.. dry
Osage County—
28-17-15 Bartee, Goebel Bending et al 1 dry
Russell County—
20-12-15w Gibbs, Liggett et al 1 75
6-13-15w Leonard, The Texas Company 2 40
5-14-12w Mahoney, Allison & Fitzwilliams 1..... dry
Saline County—
6-15-2w Muir, Dixie Oil Co. 1 ..... dry
Sumner County—
27-34-4w Bobek, Gypsy Oil Co. & Blankinship 1 ..... dry
16-35-3w Enderend, Gypsy Oil Co. 1...2664
3-35-2 Fitch, Prairie O. & G. Co. 1. 88
Woodson County—
30-25-14 Northmyer, Fields et al 1 ... dry

Wells completed 31
Production 3230
Dry 19
Gas 1
Gas production 12,000,000

NORTH CENTRAL TEXAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	38	967	21	0
Baylor	1	0	1	0
Brown	29	4,188	11	0
Callahan	7	0	7	0
Clay	3	100	1	0
Coleman	19	3,068	6	0
Comanche	1	0	1	0
Cooke	12	1,744	3	0
Eastland	16	129	11	1
Erath	4	0	2	2
Foard	2	137	0	0
Haskell	3	40	2	0
Jack	6	1,404	1	1
Montague	4	120	0	0
Palo Pinto	3	0	2	1
Shackelford	25	285	14	0
Stephen	4	0	1	3
Throckmorton	4	0	3	1
Wichita	37	798	19	0
Wilbarger	41	3,546	14	0
Young	34	480	20	0
Total September	293	29,502	140	9
Total August	497	17,006	207	21
Difference	204	12,496	67	12

Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Archer	11	2	13	26
Brown	8	21	17	46
Callahan	5	4	7	16
Coleman	9	10	27	46
Cooke	5	5	18	28
Clay	0	3	2	5
Eastland	6	11	21	38
Erath	1	2	5	8
Haskell	0	3	1	4
Jack	6	2	21	29
Montague	0	0	4	4
Palo Pinto	0	7	4	11
Shackelford	7	1	10	18
Stephens	3	7	16	26
Throckmorton	0	1	1	2
Wichita	6	3	25	34
Wilbarger	9	24	60	93
Young	10	12	19	41
Miscellaneous counties	2	19	9	30
Total September	88	137	280	505
Total August	98	142	302	542
Difference	10	5	22	37

WELLS COMPLETED

ARCHER COUNTY

Wilson-M, Burns, 6 28
Wilson-A, Johnson et al, 9 45
Griffin, Panhandle Refg. Co., 1 ..... Dry
Wilson, Staniforth, 1 ..... Dry
Wallace, Wallace, 4 ..... Dry
Kemp & Kempner-Blk. 75, Wallace, 5 130
Richardson-A, Continental Oil Co., 2 57
Richardson-B, Continental Oil Co., 9.. 11
Kunkel, Humble Oil & Refg. Co., 7 ... 145
Parkey-B, Humble Oil & Refg. Co., 1 .. Dry
Bloodworth, Moran Drlg. Co. and Ind. O. & G. Co., 5 18
Hilbers, Moran et al, 1 ..... Dry
Walsh, The Texas Company, 1 ..... Dry
Benson, Trinity Oil Co., 2 5
Kunkel, Williams et al, 1 58
Turbeville, L. T. Burns, 2-C ..... Dry
Lyles, Shappell Oil Co., 10 25
Pruett, Bradstreet Co., 2 ..... Dry
DeMoss, Bridwell Oil Co., 1 ..... Dry
O'Donnell, Gilliland & Rosser, 1 ..... Dry
Louster, C. B. Long and The Texas Company, 1 ..... Dry
Parkey, Panhandle Refg. Co., 1 ..... Dry
Wilson-A, Barnsdall Oil Co., 8 40
Kemp & Kempner-A, Continental Oil Co., 1 ..... Dry
Roberts et al, Omohundro, 1 ..... Dry
Richardson, Clampett et al, 1 ..... Dry
McClure, Douglas Oil Co., 1-A 112
Hamilton-A, Humble O. & R. Co., 4 .. 15
Kunkel, Amos Mitchell, 1 18
LaLuster, Perkins & Cullum, 2 ..... Dry
Kunkel-C, Pet. Prod. Co. et al, 1 15
Kunkel, Williams et al, 2 92
Taylor, Geo. L. Pace, 1 ..... Dry
American Refg. Prop., United P. Co. and The Texas Company 1 ..... Dry
O'Donnell, Clark-Weldon & Lowery, 1 .. Dry
Kunkel, Goldsmith & Junker, 1 123
Kunkel, Mitchell Amos, 2 ..... Dry
Blewitt, The Texas Company and Robert O. Corp., 1 ..... Dry

Completions 33
Production 967
Dry 21

BAYLOR COUNTY

Turbeville, Ridgeway et al 1 ..... dry

BROWN COUNTY

Hickman-B, Humble Oil & Ref. Co., 3.. 20
Kilgore-E, Humble Oil & Refg. Co., 1 .. 20
Munselle, Humble Oil & Ref. Co. 2 20
Duff, Lloyd Oil Corp., 4 20
Edmondson, Amerada Pet. Corp., 2 .. Dry
Leatherwood, Anderson, 6 ..... Dry
Smith, Cox & Michael ..... Dry
Davis, Greene Prod. Co., 5 310
Kessler, Herring et al, 1 519
George, Smith Oil Co., 3 500
Kessler, The Texas Company 240
Hickman-D, Ven-Mex Oil Co., 6 100
Churchill, Honea, 1 ..... Dry
Swindle, Moore et al, 1 ..... Dry
Shields, Paramount Oil Co., 1 ..... Dry
Miller, Cross Cut Corp., 12 ..... Dry
Belvin, Phil French, 2 350
Clark, Prairie O. & G. Co., 3 ..... Dry
Henson, Ramsey, 6 ..... Dry
George, E. L. Smith, 4 100
Sears, Jordan Bros., 1 ..... Dry
Munselle, Buder Trustee, 3 20
Davis, Greene Prod. Co., 6 150
George, Smith Oil Co., 5 400
George, Smith Oil Co., 7 450
Trueheart, Smith Oil Co., 3 124
Kessler, The Texas Company, 6 600
Kilgore Bros., Young Bros., Alexander et al, 11 245
Peck, Paramount Oil Royalties, 1 .... Dry

Completions 29
Production 4188
Dry 11

CALLAHAN COUNTY

Smith, Ewmo Oil Co. 1 ..... Dry
Davis-Hines, Hartley Burton 1 ..... Dry
Jackson-B, Drew Beams, 6 ..... Dry
Hennessy, Campbell et al, 1 ..... Dry
Brown, Moutray Oil Co., 1 ..... Dry
Windham, Cranfill & Reynolds Co., 1.. Dry
Seale, W. A. Thompson, 1 ..... Dry

Completions 7
Production 0
Dry 7

CLAY COUNTY

Evans et al, Belcher et al, 4 15
Johnson-B, Mid-Continent Holding Co., 3 85
Boddy, Mitchem et al, 1 ..... Dry

Completions 3
Production 100
Dry 1

COLEMAN COUNTY

Bennett, Herbert Oil Co., 1 20
Morris, White Eagle Oil & Refg. Co., 3. 752
Johnson, Greene et al, 1 ..... Dry
Morris-A, Eastland Oil Co., 9 200
Casey, McDonald & Campbell, 1 ..... Dry
Haas, Elrod, Bebout & Sullivan, 4 78
Blackwell, Mid-West Expl. Co., 1 ..... Dry
Riddle, J. W. Pool et al, 1 ..... Dry
McClure, Taylor-Link Oil Co., 2 60
Vaughn, Wilmot, 2 6
Keeney, Mid-West Expl. Co., 4 30
Morris, Levi Smith, 1 150
Crowder, Tower & McKanna, 2 690
Weaver, Vacuum Oil Co. et al, 3 492
Morris, White Eagle O. & R. Co., 4 .. 250
Overall, Continental and Atlantic Cos., 6 240
Moody, Stepp & Keister, 3 ..... Dry
Morris-A, Eastland Oil Co. et al, 12 .. 100
McAdams, The Texas Company, 1 ..... Dry

Completions 19
Production 3068
Dry 6

COMANCHE COUNTY

Poteet, Fain, 1 ..... Dry

COOKE COUNTY

Wheelock, Lloyd Oil Corp., 3 60
Huggins, Coline Oil Co., 1 239
Field & Bowers, Shell Pet. Corp., 2 .. 171
Perkins, et al, Faith Oil Co., 1 ..... Dry
Potee., Humble O. & R. Co., 3 210
Field & Bowers, Shell Pet. Corp., 3 155
Huggins, Danciger O. & R. Co., 6 240
Huggins, Danciger O. & R. Co, 7 335
Huggins, Fain-McGaha Oil Corp., 4 .. Dry
Poteet, Humble O. & R. Co., 5 167
Grotte, C. M. Beckner, 2 ..... Dry
Huggins, Danciger O. & R. Co., 5 167

Completions 12
Production 1744
Dry 3

EASTLAND COUNTY

Ainsworth, et al, Atwood et al, 2 ..... Dry
Harbin, Hoffman & Page, 5 ..... Dry
Balderree, Root & Fehl, 1 50
Hise, States Oil Corp., 7 7
Lyerla, Dale & Simms, 1 ..... Dry
Clark, Rochelle, 1 32
Williams, Outlaw et al, 1 ..... Dry
Lyerla, Texwa Oil Co. and Simms Pet. Co., 1 ..... Dry
Kellett, Cranfill & Reynolds, 1 ..... Dry
Butler-B, Hoffman & Page, 1 ..... Dry
Good, Root & Fehl and Velva Oil Co., 1. Dry
Spencer & McGee, Texwa Oil Co. and States Oil Corp., 1 ..... Dry
Pippin, Vandiver, 1 ..... Dry
Murrell et al, Whiteside Bros., 1 25
Madding, Jenkins et al, 1 ..... Dry
Turner, Crabb, McNeel and Canyon Oil Co., 4 15

Completions 16
Production 139
Dry 11
Gas 1

ERATH COUNTY

Hatcher, Mingus Gas Co., 1 ..... Gas
Cage, Lone Star Gas Co., 1 ..... Dry
Barton, Peters et al, 3 ..... Gas
Mulloy, Associated Prod. Co., 1 ..... Dry

Completions 4
Dry 2
Gas 2
Gas production 13,084,000

FOARD COUNTY

Thompson, Shell Pet. Corp., 1 67
Ward, Shell Pet. Corp., 1 70

Completions 2
Production 137

HASKELL COUNTY

Reynolds, Evans et al, 1 ..... Dry
Reynolds, Superior Oil Co., 6 40
Stone, Barnes et al, 1 ..... Dry

Completions 3
Production 40
Dry 2

JACK COUNTY

Raley, J. L. Art, et al, 1 55
Keyser, Brazos River Gas Co., 1 .... Gas
Box, Panhandle Refg. Co., 2 40
Dougherty, F. H. E. Oil Co., 1 ..... Dry
Shanafelt, Pet. Prod. Co. and The Texas Company, 1 1019
Smith, Panhandle Refg. Co., 4 290

Completions 6
Production 1404
Dry 1
Gas 1

MONTAGUE COUNTY

Salmon, Archer Drlg. Co. et al, 1 25
Edmondson, Bridwell Oil Co., 5 35
Edmondson, Bridwell Oil Co., 6 20
Edmondson, Bridwell Oil Co., 7 40

Completions 4
Production 120

PALO PINTO COUNTY

Holt, Richardson & Comanche O. & G. Co., 1 ..... Dry
Smith, Comanche Oil Corp., 1 ..... Dry
Ready Hrs., F. Walker et al., 1 .... Gas

Completions 3
Dry 2
Gas 1
Gas production 2,069,000

SHACKELFORD COUNTY

Russ-Webb, Big State Oil Co., 10 35
Matthews-B, Engle Bros., 4 20
Matthews-C, Vacuum Oil Co., 5 20
Matthews, Combest Oil Co., 5 .... Dry
Moberly-B, Cranfill & Reynolds, 4 15
Matthews, Dull-Earls Texas Co., 8 ... 70
Mat.hews, Tannehill et al, 5 ..... Dry
Newell, Manning et al, 5 5
Reynolds, Texas Consolidated Oil Co., 2 17
Russ-Webb, Big State Oil Co., 11 ..... Dry
Russ-Webb, Big State Oil Co., 12 ... Dry
Spears, Big State Oil Co., 1 ..... Dry
Matthews, Dull-Earls Texas Co., 9 ..... Dry
Davis, Grisham-Hunter Corp., 3 12
Reynolds, Swallow et al, 2 ..... Dry
Newell, Tannehill et al, 24 40
Shackelford Co. Fee, Geo. Callihan, 1 .. Dry
Davis, Choate et al, 1 ..... Dry
Matthews, Dull-Earls Texas Co., 10 .. 45
Newell, Tom James, 2 ..... Dry
Davis-B, S. B. Owens et al, 1 ..... Dry
Davis, Oys.er & Rife, 1 ..... Dry
Dawson et al, Reading, Sedwick & Webb 1 ..... Dry
Dodson, Van Zadt & Eldridge, 1 ..... b
Spears, Big State Oil Co., 1 ..... Dry

Completions 25
Production 285
Dry 14

STEPHENS COUNTY

Elliott, Lone Star Gas Co., 3 ..... Gas
Smith, T. P. Coal & Oil Co., 2 ..... Gas
Calloway, Lone Star Gas Co., 1 .... Gas
Elliott, Lone Star Gas Co., 4 ..... Dry

Completions 4
Dry 1
Gas 3
Gas production 3,590,000

THROCKMORTON COUNTY

Matthews, Hays & Hodges, 2 ..... Dry
Overcash, Conway Bros. and Woodson Oil Co., 4 ..... Dry
Cathey, Hobbs, 1 ..... Dry
Matthews, Morton et al, 2 ..... Gas

Completions 4
Dry 3
Gas 1
Gas production 4,750,000

WICHITA COUNTY

Morgan, Dorian, 2 4
Bishop, Comac & Prairie, 9 30
Waggoner-C, Continental Oil Co., 4 .... Dry
Ferguson, Cottom, 1 ..... Dry
Waggoner, Golding & Cochran et al, 10 Dry
Waggoner-C, Hunter, 6 ..... Dry
Crow, Kimbell & Bostic, 8 ..... Dry
Munger, Frank Rose, 1 ..... Dry
McClure-B, Rubsam Hunter et al, 11 .. 50
Waggoner Bros., The Texas Co. et al, 9 Dry
Waggoner Bros., The Texas Company et al, 10 ..... Dry
Hirschi, Tucker et al, 29 20
Burnett et al-A, Tr.-B, Gulf Prod. Co., 43 ..... Dry
Emmett, Hamilton et al, 1 ..... Dry
Foster Allen, Pigg, 1 ..... Dry
Lillis Morgan, American Refg. Props., 7 30
Burnett-E, Continental Oil Co., 15 18
Waggoner Bros., Golding & Cochran 11.. 30
Kemp & Kempner, Holbrook & Wood, 31 ..... Dry
Rio Bravo, O'Neil, 33 92
Burnett et al-A, Panhandle Refg. Co., 8 67
Allen & Kemp-E, Producers Drlg. Co., 1 25
Waggoner, The Texas Company, 362 .. 30
Kemp & Kempner, Arkansas Fuel Oil Co., 19 145
Waggoner Bros., Culberson Co., 62 .... Dry
Pierce Oil Corp., Empire G. & F. Co. 22 12
Waggoner Bros., Golding-Cochran & Mayfield, 12 ..... Dry
Boyd, L. P. Hammond, 6 ..... Dry
Waggoner Bros.-E, T. F. Hunter, 1 .. Dry
Mitchell, McCarty Oil Co., and Jackson 12 ..... Dry
J. R. Pace, Omohundro et al, 22 30
Rio Bravo, Jno. O'Neil, 34 ..... Dry
Waggoner Bros., The Texas Company et al, 11 20
Waggoner Bros., The Texas Company, et al, 12 70
Hirschi, Tucker Oil Co., 27 25
Hirschi, Tucker Oil Co., 28 100
Powell, J. E. Ward, 1 ..... Dry

Completions 37
Production 798
Dry 19

WILBARGER COUNTY

Waggoner-G, Burton, 3 30
Waggoner, Clark & Cowden, 1 ..... Dry
Waggoner-B, Empire Gas & Fuel Co., 20 110
Grace Waggoner, Gray Back Dev. Co., 1 70
Waggoner-A, Lewis Production Co., 10 30
Waggoner (Norwood), Phillips Pet. Co. 5 324
Waggoner, Ven-Mex Oil Co., 1 ..... Dry
Waggoner-J, Waggoner Refg. Co., 9 .. 100
Waggoner, Apple & Brandeberry, 3 .. 52
Waggoner-A, Empire Gas & Fuel Co., 9 147
Waggoner-B, Empire Gas & Fuel Co., 18 61
Waggoner-W, Fain McGaha Oil Corp., 13 200
Waggoner-J, Golding & Cochran et al, 3 190
Waggoner-F, Knight, 3 ..... Dry
Waggoner-A, Melat Oil Co., 8 10
Waggoner-DD, Phillips Pet. Co., 4 ... 75
Waggoner-A, Simpson Fell Oil Co., 3 .. 100
Waggoner-B, Staley Wynne & Co., 5 .. Dry
Waggoner-E, Staley Wynne & Co., 2 .. 200
Waggoner-Y, Staley Wynne & Co., 1 .. Dry
Waggoner-E, The Texas Company, 20.. 70
Waggoner-M, Waggoner Refg. Co., 3.. 165
Waggoner-A, Easter Oil Co., 6 100
Waggoner-A, Empire Ga & Fuel Co., 10 145
Waggoner-C, Empire Gas & Fuel Co., 10 70
Waggoner-Smith, Gray Back Dev. Co., 2 265
Waggoner-A, Lewis Prod Co., 8 175
Waggoner, McAneny et al, 1 ..... Dry
Wells, Norwood & Darsey, 1 ..... Dry
Waggoner-C, Richfield Oil Co., 1 ..... Dry
Waggoner-X, Staley-Wynne & Co., 1.. Dry
Waggoner-E, The Texas Company, 21 .. 80
Shipley, Vandeven.er et al, 1 ..... Dry
Waggoner, Bradstreet Co., 2 ..... Dry
Waggoner, Cosden & Co., Inc., 2 419
Waggoner, Empire G. & F. 19 168
Waggoner, Empire G. & F. Co., 12 .. Dry
Waggoner-EE, Fain McGaha Oil Corp., 1 ..... Dry
Waggoner-Shanor, Grayback Dev. Co., 1 ..... Dry
Waggoner-A, E. B. Lawson, 6 72
Waggoner-M, Waggoner Refg. Co.,4.. 118

Completions 41
Production 3546
Dry 14

YOUNG COUNTY

Holt, Bratcher et al, 1 ..... Dry
Barrett, Carpenter, 6 10
Owen, Hawkins et al, 3 ..... Dry
Dean, Holbrook & Woods, 1 25
Johnson, Parks et al, 1 3
Prideaux, Richardson Oil Corp., 1 .. 15
Stratton, Bratcher, 1 ..... Dry
Campbell, Campbell et al 1 34
Barrett, Carpenter, 3 4
Owen, Hawkins et al, 5 25
Dean, Holbrook & Woods 2 3
Pittman, Panhandle Refg. Co., 5 .... Dry
Prideaux, Richardson Oil Corp., 2 .... Dry
Marshall, Riggs, 1 ..... Dry
Johnson, Ryan & Stastny, 1 ..... Dry
Harman, Williams, 1 ..... Dry
Culler, Wise & Jackson, 1 35
Stratton, Wooten & Reed, 1 ..... Dry
Barrett, Carpenter, 9 ..... Dry
Calvin, Pennell et al, 6 ..... Dry
Jack-A, Rannell Oil Co., 6 5
McClure, Riggs, 1 ..... Dry
McClatchey-B, Roamer Oil Co., 1 .... Dry
Barrett-A, Trinity Oil Co., 1 20
Spearman, Estacado Oil Co., 1 ..... Dry
Owens, Hawkins et al, 6 ..... Dry
Drum, A. Hurst, 1 ..... Dry
Lemmond, Perkins & Cullum, 2 36
Dean, Richardson Oil Corp., 1 10
Prideaux, Richardson Oil Corp., 3 .... Dry
Hoffman, Smith & Moran, 1 ..... Dry
Barrett-B, Trinity Oil., 1 ..... Dry
Burris, C. C. Williams, 1 ..... Dry
Cullers, Wise & Porterfield, 1 250

Completions 34
Production 480
Dry 20

PANHANDLE FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	3	1,077	1	2
Cottle	1	0	1	0
Gray	26	12,647	2	7
Hutchinson	11	2,780	0	1
Wheeler	8	0	3	5
Total September	55	16,504	7	16
Total August	98	85,614	9	19
Difference	43	69,110	2	3

Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Carson	4	4	19	27
Gray	17	19	61	97
Hutchinson	2	7	14	23
Moore	1	2	4	7
Wheeler	4	6	9	19
Miscellaneous counties	3	8	9	20
Total September	31	46	116	193
Total August	32	44	135	211
Difference	1	2	19	18

WELLS COMPLETED
CARSON COUNTY

Burnett, Empire Gas & Fuel Co., 18 Gas
Cooper, Midwest Expl. Co. 3 380
Percival, Raber and Sheil, No. 1 ..... Dry
Fee No. 244, Magnolia Pet. Co., 7 70
Percival, Osborne et al, 2 480
J. L. Noel, Gulf Production Co., 7 .. 70
C. C. Bernard, Jordan et al, 1 ..... Gas
T. A. Powers, Independent O. & G. Co., 1 ..... Gas
C. R. Garner et a l-B, Gulf Production Co., 1 77

Completions 9
Production 1077
Dry 1
Gas 3
Gas production 91,000,000

COTTLE COUNTY

Richards, The Expl. Co. of Texas, 3.... Dry

GRAY COUNTY

Morse, Bob Dunlop, 2 200
Morse, Lyon et al, 1 168
Saunders, The Texas Co., 12 ..... Gas
Palmer, McMan Oil & Gas Co., 3 ... 1080
Palmer, Phillips Pet. Co., 5 ..... Gas
Beck, Danciger Oil & Refg. Co., 2 3190
Noel, Empire Gas & Fuel Co., 1 ... 345
Jackson, McMan O. & G. Co., 2 245
Palmer, Phillips Pet. Co., 8 2380
Harrah, Prairie O. & G. Co., 3 .. 63
Chapman-A, The Texas Co.,7 72
Shaw, The Texas Co., 3 ..... Gas
Williams, The Texas Co., 6 ..... Gas
Palmer, McMan Oil & Gas Co., 4 ... 335
Bowers-B, Midwest Expl. Co., 2 ..... Dry
Jackson (Joe Dan), Phillips Pet Co., 2-A 350
Bowers, The Texas Co., 12 55
Combs Worley, The Texas Co., 4 .... Gas
Saunders, Gulf Prod. Co., 2 40
J. D. Back, McLain Oil Co., 1 ..... Gas
W. S. Clayton-A, Shamrock O. & G. Co. 1 ..... Gas
W. S. Clayton-B, Shamrock O. & Gas Co., 2 ..... Dry
H. K. Beck, Danciger O. & R. Co., 3 .. 1080
W. Jackson, Delaney et al, 8 50
J. H. Palmer, McMan O. & G. Co., 5 .. 500
Combs-Worley, The Texas Co., 2 265

Completions 26
Production 12647
Dry 2
Gas 5
Gas production 21,000,000

HUTCHINSON COUNTY

Quinn, Holmes et al, 2 180
Johnson Bros. (Ford), Phillips Pet Co., 4 100
Johnson Bros. (Trigg), Phillips Pe.. 100
Whittenburg, Skelly Oil Co., 7 175
Quinn, The Texas Co., 2 123
Dial et al Gulf Production Co., 46 .. 12
Ida Ingerton-A, Amarillo Oil Co., 2.... Gas
Moore, Danciger Oil & Refg. Co., 2 .. 180
Johnson Bros., Rock Creek Oil Co., 3 .. 300
R. F. Cheatham, Phillips Pet. Co., 1 .. 1460
J. A. Whittenburg, Skelly Oil Co., 8 .. 150

Completions 11
Production 2780
Gas 1
Gas production 7,000,000

WHEELER COUNTY

West, Johnson-Wischkamper, 1 ..... Dry
Binkley-Caine, Fain et al, 2 ..... Dry
Ladd, Upham Gas Co., 1 ..... Gas
Hicks, Mudge Oil Co., 3 ..... Gas
C. Hicks, Kosmos Carbon Co., 1 ..... Gas
L. C. Burcham, Lone Star Gas Co., 3 .. Dry
I. Close, Murchison & Fain, 2 ..... Gas
Ackley, Vaughan et al 4 ..... Gas

Completions 8
Dry 3
Gas 5
Gas production 169,000,000

WEST TEXAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Coke	2	0	2	0
Concho	1	0	1	0
Crane	2	607	0	0
Fisher	2	467	0	0
Garza	2	3	1	0
Glasscock	3	565	1	0
Howard	17	1,154	3	0
Irion	1	0	1	0
Jones	5	64	4	0
Menard	2	0	2	0
Pecos	23	250,859	7	3
Runnels	2	0	2	0
Sutton	1	0	1	0
Taylor	3	0	3	0
Val Verde	1	0	1	0
Ward	3	362	0	0
Winkler	8	20,355	1	0
Total September	78	274,436	32	3
Total August	106	45,801	40	3
Difference	28	228,635	8	0

Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Crane	3	0	6	9
Crockett	0	1	7	8
Fisher	1	1	8	10
Glasscock	4	3	8	15
Howard	19	9	30	58
Jones	1	1	3	5
Mitchell	0	0	1	1
Pecos	27	11	58	96
Reagan	2	9	4	15
Runnels	1	0	1	2
Upton	1	0	4	5
Ward	0	4	7	11
Winkler	1	4	9	14
Miscellaneous counties	12	32	47	91
Total September	72	75	193	340
Total August	56	81	172	309
Difference	16	6	21	31

WELLS COMPLETED
COKE COUNTY

McCutchen, Ray McCamey et al, 1 .... Dry
Mims, Cates & Dennis, 2 ..... Dry

CONCHO COUNTY

Gilliam, Duffey et al, 1 ..... Dry

CRANE COUNTY

University, Duffey & Skelly Oil Co., 1.. 297
University-D, Humble Oil & Refg. Co., 1 310

Completions 2
Production 607

FISHER COUNTY

Flannigan, Cranfill & Reynolds, 1 330
Haught-A, Reeser and Pendleton & Amerada, 1 137

Completions 2
Production 467

GARZA COUNTY

Bargsley, Emerald Oil Co., 1 3
Street-D, Gulf Production Co., 1 ..... Dry

Completions 2
Production 3
Dry 1

GLASSCOCK COUNTY

Irene Dean, Gibson & Johnson, 1 .... Dry
J. J. Phillips, Kirby Pet. Co., et al, 1 115
R. C. Coffee, Lion Oil Refg. Co., 1 450

Completions 3
Production 565
Dry 1

HOWARD COUNTY

Dora Roberts-B, Moody Corp., 21 100
Dora Roberts, Ward Oil Co. 8 200
Dora Roberts, Ward Oil Hope 9..... 25
Settles-C, The American Maracaibo Co., 2 ..... Dry
Dora Roberts, Merrick & Bristow, 9 .. 135
Clay, Humble Oil & Refg. Co. 4 135
Dora Roberts, Laurel & Cosden, 14 .. Dry
Dora Roberts-B, Moody Corp., 16 50
Dora Roberts-B, Moody Corp., 22 60
Dora Roberts, Amerada Pet. Corp., 12.. 35
Hooks, Bristow & Merrick, 11 8
Dora Roberts-B, Moody Corp., 20 ... Dry
Dora Roberts, Ward Oil Co., 11 225
H. R. Clay, Gulf Prod. Co., 7 195
Otis Chalk-E, Continental Oil Co., 6 50
Dora Roberts-B, Moody Corp., 19 50
Dora Roberts, Ward Oil Co., ... 11

Completions 17
Production 1154
Dry 3

IRION COUNTY

Joe Stocks, Pecos Valley Oil Co., 2 .... Dry

JONES COUNTY

Camp, The Texas Company, 3 ..... Dry
Bickley, Humble O. & R. Co., 2 64
Grayson-A, Roeser & Pendleton, Inc., 5 ..... Dry
Smith, Texas Pacific Coal & Oil Co., 1.. Dry
Miller, Clark et al, 1 ..... Dry

Completions 5
Production 64
Dry 4

MENARD COUNTY

Winslow, Cromwell & Duffy, 1 ..... Dry
Callan City, Barnett & Drake, 1 ..... Dry

PECOS COUNTY

University-A, Landreth Prod. Corp., 1.. Gas
Mrs. M. A. Smith-C, McMan Oil & Gas Co., 2 10
Yates-E, Mid-Kansas Oil & Gas Co., 1 .. 8472
Yates-H, Mid-Kansas Oil & Gas Co., 10 71232
Ramsey, Phillips Pet. Co., 3 3648
University-B, Shell Pet. Corp., 1 .... Dry
University, Tidal Oil Co., 3 ..... Dry
Southwestern Life Ins. Co., Phillips Pet. Co., 1 ..... Dry
University, Continental Oil Co., 1 ..... Gas
University (Sec. 13), W. A. Moncrief et al, 1 40
Smith, Phillips Pet. Co., 3 1200
University-C, Shell Pet. Corp., 1 1440
University, Taylor-Link Oil Co., 1 .. 50
Mrs. M. A. Smith, Cosby Drilling Co., 2.. 800
University, Henshaw et al, 1 ..... Dry
University, Henshaw et al, 2 ..... Dry
University, Henshaw et al, 3 ..... Dry
University, Henshaw et al, 4 ..... Dry
J. A. McDonald, Independent O. & G. Co., et al, 1 857
I. G. Yates-A, Mid-Kansas O. & G. Co., 30 146,160
J. H. Tippett, Skelly Oil Co., 2 150
I. G. Yates, The California Co., 19 .. 16800
University, Tower & McKanna, 1 .... Gas

Completions 23
Production 250,859
Dry 7
Gas 3
Gas production 70,050,000

RUNNELS COUNTY

Lange, Boyce et al, 1 ..... Dry
Clayton, Reese & Cates, 1 ..... Dry

SUTTON COUNTY

Allison, Southern Crude O. P. Co., 1... Dry

TAYLOR COUNTY

Hammer, Magnolia Pet. Co. 1 ..... dry
Cody, Mid-Continental O. & G. Co., 1 .. Dry
Martin, Root Drilling Co., 1 ..... Dry

VAL VERDE COUNTY

Everett Bros., Producers Oil Co., et al, 1 ..... Dry

WARD COUNTY

Hayzlett, Atlantic & Delmar, 3 157
Hayzlett, Shipley et al, 2 105
Wristen Bros., Gulf Production Co., 2 .. 100

Completions 3
Production 362

WINKLER COUNTY

Fred Leck, Skelly Oil Co., 2 2122
Hendrick-C, Lse 2, Humble Oil & Refg. Co., 13 8500
Hendrick T-88-CX, Southern Crude, 4.. 560
Hendrick-C, Lse 2, Humble Oil & Refg. Co., 14 5045
Fred Leck, Skelly Oil Co., 3 384
Tobe Morton-A, Continental Oil Co., 1.. 288
Grisham-Hunter 3-T-68-A, Southern Crude O. P. Co., 2 3456

Completions 8
Production 20,355
Dry 1

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Mirando	28	1,167	11	5	9	30	39
Bruner	21	6,195	5	0	2	6	8
Darst Creek	2	1,400	1	0	5	3	8
Refugio	15	3,750	4	2	9	29	38
Miscellaneous	34	2,700	30	2	15	101	116
Total Sept.	100	15,212	51	9	40	169	209
Total Aug.	77	14,038	29	9	29	161	190
Difference	23	1,174	22	0	11	8	19

WELLS COMPLETED
SCHOOLFIELD & O'BYRNE FIELD—DUVAL

Bowe, S. & O. Oil Co. 4 75
Hahl, Magnolia Pet. Co. 6 100
Hahl, S. & O. Oil Co. 8 250
Hahl, Magnolia Pet. Co. 7-B ..... abd
Hahl, Magnolia Pet. Co. 7 75

KOHLER POOL

Kohler, Humble Oil & Rfg. Co. 22..... abd
Kohler, Humble Oil & Rfg. Co. 34..... gas
Lopez, Sun Oil Co. 2 ..... abd
Kohler, Humble Oil & Rfg. Co 30..... 85
Peters, Sun Oil Co. 1 ..... gas
Walsh, Suladie-Peters-Jack 1 ..... abd

HENNE-WINCH & FARISS—JIM HOGG

Holbein, W. R. Shankle 2 60

ALWORTH FIELD

Garza, Alworth-Stevens-Hild 14 ..... abd

CAROLINA-TEXAS FIMA—WEBB
Benavides, Carolina-Texas Oil Co. 8... abd
Benavides, Trapshooter Reilly 2 80
Webster, Foster Barnsley 6 60

MAGNOLIA-COLE
Valdez, J. J. O'Hern 1 ..... gas
Bruni, O. W. Killiam 12 ..... gas
Benavides, Magnolia Pet. Co. 1 ..... gas
Benavides, Magnolia Pet. Co. 1-M .... abd
Yeager, G. S. Lumpkin 1 ..... abd

JENNINGS-ZAPATA
Jennings, South Texas Prod. Co. 5.... abd
Trevino, Blair & Acklin 1 ..... abd
Trevino, H. Muckelroy Jr. 3 12
Cuellar, O. W. Killam 15 20
Cuellar, Killam-Duggan 6 150
Garza, Buck & Coursey 1 ..... abd
Cuellar, Killam-Duggan 7 200

Wells completed 28
Production 1,167
Dry 11
Gas 5
Gas production 145,000,000

JOE BRUNER—CALDWELL
Gray, Humble Oil & Rfg. Co 4-B .... abd
Dye, Humble-Luling Oil & Gas 6 280
Davis, Nash, Windfohr & Perry 4-C 65
C. Smith, Humble Oil & Ref. Co. 7-B.... 200
Gray, Humble-Luling Oil & Gas 8-A 250
Tiller, Humble-Luling Oil & Gas 7 300
Gray, Humble-Luling Oil & Gas 7-C 600
Gray, Humble-Luling Oil & Gas 6-C 50
Gray, Humble-Luling Oil & Gas 6-A 100
Dye, Humble-Luling Oil & Gas 7 300
Merriweather, Texas Company 8 ..... abd
Merriweather, T. C. Hadley 4 ..... abd
Carter-Brown & Miller 2 ..... abd
Johnson, Humble Oil & Refg. Co. 5-B... 100
Tiller, Humble Oil & Refg 3-C 600
Gray, Humble Oil & Ref. 8-C 150
Gray, Humble Oil & Ref. 9-A 200
Walker, Humble Oil & Ref. 1 ..... abd
Moses-Baggett, Humble Oil & Ref. 13-B 300
Merriweather, Magnolia Pet. Co. 1 100
Northcut, Humble Oil & Ref. 1-B 2500

Wells completed 21
Production 6,195
Dry 5

DARST CREEK—GUADALUPE
Denman, Cranfill & Reynolds 1 ..... abd
Lemmie Anderson, The Texas Co. 1 .. 300
Dallas Wilson, Texas Company 1 600

Wells completed 3
Production 1,400
Dry 1

REFUGIO—REFUGIO
Heard, Houston Gulf Gas Co. 5 400
Strauch, Mission Drilling Co. 1 600
Buckley, Sun Oil Co. 2 400
Johnson, Sun Oil Co. 1 400
J. B. F. Heard, Mission Drilling Co. 1... 500
Adkins, Houston Gulf Gas Co. 4 ..... abd
Simpson, Saxet Gas Co. 1 350
Ryals, Houston Gulf Gas Co. 5 ..... gas
Fox, Wm. F. Morgan 1 500
Heard, Saxet Gas Co. 9 300
Powers, Mission Drilling Co. 1-A ..... abd
Heard, Saxet Gas No. 5 ..... abd
Lambert, Houston Gulf Gas Co. 3 .... gas
Rhea, Sun Oil Co. 2 300
Buckley, Houston Gulf Gas Co. 1 ..... abd

Wells completed 15
Production 3,750
Dry 4
Gas 2
Gas production 100,000,000

MISCELLANEOUS
ATASCOCA COUNTY
Schlisser, Amphion Oil Co. 1 ..... abd
BASTROP COUNTY
Moore, Superior Oil Co. 1 ..... abd
Rundus, Nelson et al 2 ..... abd
Spooner, Pacific Oil & Gas Co. 1 ..... abd
CALDWELL COUNTY
Cude, Texas Company 1 200
Ohlendorif, Allen-Harrsh and Sun 1 .. abd
Dauchy, Cranfill & Reynolds 2 ..... abd
BEXAR COUNTY
Jackle, Balcones Oil Corp. 1 ..... abd
Ponciano Pena, Alice B. Garrett 1 .... abd
GUADALUPE COUNTY
Hocke, Wolfe Creek Oil Co. 1 ..... abd
Hensel, Sights et al 1 ..... abd
Manford, R. R. Penn 1 2,500
Tewes, Sinclair Oil & Gas Co. 1 ..... abd
Lannon, Burgess 1 ..... abd
GOLIAD COUNTY
Mueller, Humble Oil & Ref. Co. 1-A.... abd
GONZALES COUNTY
Wells, Grayburg Oil Co. 1 ..... abd
KARNES COUNTY
Harnett, L. B. Flowers 1 ..... abd
Ruckman, Scott Townsend 1 ..... abd
LA SALLE COUNTY
Coleman, L. G. Nix 1 ..... abd
LIVE OAK COUNTY
Brown, Houston Oil Co. 2-A ..... gas
FAYETTE COUNTY
Kerr, Marshall & Moore 1 ..... abd
Hunger, National Oil Co. 1 ..... abd
Gully, Magnolia Pet. Co. 1 ..... abd
KLEBERG COUNTY
Flato, Humble Oil & Ref. Co. 4 ..... abd
MEDINA COUNTY
Adams, Trapshooter Reilly 1 ..... abd
Adams, Southern Gas Utilities 22 ..... gas
Errig Farms, Zigzag Oil 1 ..... abd
MILAM COUNTY
Shigut, Elbert Williams 1 ..... abd
Shelton, McCormick & Noack 3 ..... abd
Knight, E. L. Chapman 1 ..... abd
NUECES COUNTY
Ragland, R. & G. Corporation 1 ..... abd
Brown, R. & G. Corporation 1 ..... abd
Bluntzer, Pearson et al 1 ..... abd
TRAVIS COUNTY
McAngus, J. W. Allen 1 ..... abd

Wells completed 34
Production 2700
Dry 30
Gas 2
Gas production 42,000,000

EAST CENTRAL TEXAS

County—	Comp.	Prod.	Abd.	Gas	Rgs.	Drg.	Ttl.
Anderson	2	0	1	1	1	6	9
Cherokee	0	0	0	0	0	1	1
Falls	0	0	0	0	0	3	3
Fannin	0	0	0	0	0	1	1
Grimes	0	0	0	0	0	0	0
Henderson	0	0	0	0	0	0	0
Hill	0	0	0	0	0	8	8
Leon	0	0	0	0	0	2	2
Limestone	0	0	0	0	0	3	3
Milam	1	0	1	0	0	2	2
Navarro	1	0	1	0	1	2	3
Robertson	0	0	0	0	0	0	0
Rusk	1	0	1	0	0	1	1
Tyler	1	0	1	0	0	0	0
Upshur	0	0	0	0	0	2	2
Van Zand	0	0	0	0	0	1	1
Ttl. Sept.	6	0	5	1	2	34	36
Ttl. Aug.	13	50	11	1	1	24	25
Difference	7	50	6	0	1	10	11

WELLS COMPLETED
ANDERSON COUNTY
Boggy Creek—Lizzie Smith, Humble O. & R. Co. 3 ..... abd
Holloway, Humble O. & R. Co. 4 .... gas
MILAM COUNTY
Shegut, Williams et al 1 ..... abd
NAVARRO COUNTY
Adams, Nash et al 1 ..... abd
RUSK COUNTY
Alford, Louisiana Pet. Co. 1 ..... abd
TYLER COUNTY
Cherry, Texas & Southern Pet. Co. 3... abd

GULF COAST FIELDS

GULF COAST—TEXAS
Summary of Field Operations

	Comp.	Prod.	Abd.	Gas	Rgs.	Drg.	Ttl.
Barbers Hill	7	4,970	3	0	2	20	22
Batson	1	50	0	0	0	1	1
Big Creek	2	3,400	1	0	0	3	3
Blue Ridge	4	1,100	1	0	0	5	5
Boling	0	0	0	0	0	2	2
Clay Creek	2	0	1	1	0	2	2
Damon Mound	2	0	2	0	0	1	1
Dewalt	3	1,680	0	0	0	9	9
Goose Creek	4	155	1	0	0	4	4
High Island	1	1,200	0	0	0	3	3
Hull	3	340	1	0	0	8	8
Humble	3	2,500	1	0	2	15	17
Liberty	4	3,900	1	0	1	4	5
Nash	0	0	0	0	0	1	1
N. Dayton	0	0	0	0	0	1	1
Orange	2	75	1	0	0	4	4
Orchard	0	0	0	0	0	1	1
Pierce Jct.	6	1,305	1	0	2	9	11
Raccood Bend	9	1,900	4	0	4	16	20
Refugio	15	3,010	4	3	9	27	36
Saratoga	1	0	1	0	0	0	6
Sour Lake	1	13	0	0	0	2	2
Spindletop	4	2,200	2	0	1	13	14
W. Columbia	1	15	0	0	0	6	6
Miscellaneous	6	650	4	0	8	25	33
Ttl. Sept.	81	28,463	29	4	29	182	211
Ttl. Aug.	151	55,782	56	5	32	175	207
Difference	70	27,319	27	1	3	7	4

South Louisiana

Parish—	Comp.	Prod.	Abd.	Gas	Rigs	Drg.	Ttl.
Anse La Butte	0	0	0	0	0	1	1
Bayou Bouillon	0	0	0	0	0	2	2
Belle Isle	1	0	1	0	0	0	0
Black Bayou	1	0	1	0	0	1	1
Edgerly	0	0	0	0	0	2	2
Jennings	1	400	0	0	0	3	3
Hackberry	5	1,345	0	0	0	8	8
Lockport	4	1,500	0	0	0	4	4
Sorrento	1	0	1	0	0	1	1
Starks	0	0	0	0	0	1	1
Sulphur	3	4,500	1	0	0	3	3
Sweetlake	0	0	0	0	0	1	1
Thidodaux	2	0	2	0	0	0	0
Vinton	2	530	0	0	0	4	4
Miscellaneous	0	0	0	0	20	20	40
Total Sept.	20	8,275	6	0	20	51	71
Total Aug.	25	9,025	14	0	9	50	59
Difference	5	750	8	0	11	1	12
Total Sept.	101	36,738	35	4	49	233	282
Total Aug.	176	64,807	70	5	41	225	266
Difference	75	28,069	35	1	8	8	16

WELLS COMPLETED
GULF COAST—TEXAS
BARBERS HILL—CHAMBERS COUNTY
Woodward, D. B. McDaniels 2.....1500
Kirby, Republic Prod. Co. 2..... 600
Cockburn, Rexall Oil Co. 1..... abd
McLean, Rexall Oil Co. 3..... abd
Chambers, Sun Oil Co. 3..... 2300
Woodward, Yount Lee Oil Co. 1..... 570
Chambers, Yount Lee Oil Co. 4..... abd
BATSON—HARDIN COUNTY
Millholme, W. G. Christian 2..... 50
BIG CREEK—FORT BEND COUNTY
T. W. Davis, Gulf Prod. Co. 55.....3500
Wheat, The Texas Co. 2..... abd
BLUE RIDGE—FORT BEND COUNTY
West Schenck, Moody Corp. 3..... abd
Luscher, Gulf Prod. Co. 16..... 500
Lee, South Texas Pet. Co. 1..... 300
Davison, Sinclair O. & G. Co. 3..... 300
CLAY CREEK—WASHINGTON COUNTY
Queke, Sun Oil Co. 1..... gas
Sandroff, Sun Oil Co. 1..... abd
DAMON MOUND—BRAZORIA COUNTY
Morson, Sinclair O. & G. Co..... abd
Wisdom, Leonard Pet. Co..... abd
DEWALT—FORT BEND COUNTY
Sugarland, Humble O. & R. Co. 9..... 450
Nelson, Humble O. & R. Co. 5..... 680
Brazos farm, Humble O. & R. Co. 9 ... 550
GOOSE CREEK—HARRIS COUNTY
Ashbel-Smith, Gulf Prod. Co. 25..... abd
Schilling, Newton & Lilie 3..... 10
H. F. Scott, Lee & Scott 3..... 125
Gaillard Penn, Humble O. & R. Co. 30 20
HIGH ISLAND—GALVESTON COUNTY
Geo. E. Smith-A, Gulf Prod. Co. 4.....1200
HULL—LIBERTY COUNTY
Dolbear, Republic Prod. Co. 128..... abd
Dolbear, Republic Prod. Co. 109..... 300
Hooks-Spell, Humble O. & R. Co. 11... 40
HUMBLE—HARRIS COUNTY
Williams, Humble O. & R. Co. 3..... 500
Glass, Humble O. & R. Co. 1..... abd
Foster, West Prod. Co. 1.....2000
LIBERTY—LIBERTY COUNTY
Baldwin-Navarro Oil Co. 5..... abd
Mitchell, Sun Oil Co. 43..... 900
Mitchell, Sun Oil Co. 49.....1000
Groggan, Empire O. & G. Co. 5.....2000
ORANGE—ORANGE COUNTY
Carbello, Rex Pet. Co. 6..... abd
Wm. Free, Orange Pet. Co. 8..... 75
PIERCE JUNCTION—HARRIS COUNTY
Taylor, Gulf Prod. Co. 30..... abd
Taylor, Gulf Prod. Co. 23..... 120
Settegast, Rio Bravo Oil Co. 10-A..... 50
Whitehead, A. & P. Prod. Co. 3..... 50
Whi ehead, A. & P. Prod. Co. 5..... 800
Herman, Pure Oil Co. 1..... 800
RACCOON BEND—AUSTIN COUNTY
Grawunder, Humble O. & R.-Valley 3-B abd
Walton, Humble O. & R.-Valley 4..... 500
Payne, Humble O. & R.-Valley 3..... 500
Grawunder, Humble O. & R.-Valley C-2 700
Hardy, Humble O. & R.-Valley 5..... abd
Jackson, Humble O. & R.-Valley 1..... abd
Bellville School, Humble O. & R.-Valley 2..... abd
Sherrill, Humble O. & R.-Valley 2..... 100
Beal, Humble O. & R.-Valley 2..... 100
REFUGIO—REFUGIO COUNTY
Vance, Houston Gulf Gas Co. 1..... 140
Strauch, Mission Drlg. Co. 1..... 500
Johnson, Sun Oil Co. 1..... 600
City, Saxet Oil Co. 1..... 480
Jt. B. Heard, Mission Drlg. Co. 2..... 400
Powers, Mission Drlg. Co. 2..... abd
Wilson Heard, Houston Oil Co. 6..... abd
Rea, Houston Oil Co. 2..... gas
Buckley, Houston Gulf Gas Co. 1..... abd
Rose Lambert, Houston Gulf Gas Co. 3. abd
Ryals, Houston Gulf Gas Co. 5..... gas
Simpson, W. L. Pearson, tr., 1..... 240
City, Coast Drlg. Co. 1..... 500
Buckley, Sun Oil Co. 2..... 150
Rooke, Union Explo. 2..... gas
SARATOGA—HARDIN COUNTY
Kirby-Ell Skinner Oil Co. 15..... abd
SOUR LAKE—HARDIN COUNTY
Harden Co., Lake View Oil Co. 62..... 13
SPINDLETOP—JEFFERSON COUNTY
McFadden-U, Yount Lee Oil Co. 111....1500
McFadden-U, Yount Lee Oil Co. 112.... abd
McFadden-U, Yount Lee Oil Co. 115.... abd
McFadden-U, Yount Lee Oil Co. 62..... 700
WEST COLUMBIA—BRAZORIA COUNTY
Arnolo, The Texas Co. 24..... 15
MISCELLANEOUS
Colorado County—
Fort, Humble O. & R. Co. 1..... abd
Henneke, Shell Pet. Corp. 2..... abd
Harris County—
Willbom, Humble O. & R. Co. ..... abd
Liberty County—
Boyt, Gulf Prod. Co. 2..... 500
Esperson, Union Exp. Co. 3..... 150
Waller County—
Vaughn, Kirby Pet. Co. 1..... abd

SOUTH LOUISIANA
BELLE ISLE—ST. MARYS PARISH
Belle Isle, Freeport Sulphur Co. 3..... abd
BLACK BAYOU—CAMERON PARISH
Watkins, Shell Pet. Corp. 11..... abd
HACKBERRY—CAMERON PARISH
Watkins, Calcasieu Oil Co. 15..... 115
Lemke, Calcasieu Oil Co. 3..... 650
Ellender, Sunshine Oil Co. 2..... 330
Calcasieu Lake, The Texas Co. 5-B ... abd
Gulfland, Rycade Oil Corp.-Humble O. & R. Co. 3..... 250
JENNINGS—ACADIA PARISH
Syndicate-Clement, Kathleen Oil Co. 1. 400
LOCKPORT—CALCASIEU PARISH
Bordages, Vacuum Gulf Co. 7..... 200
Miller, Vacuum Gulf Co. 15..... 500
Fee, Vacuum Gulf Co. 13-A..... 300
Miller, Vacuum Gulf Co. 16..... 500
SORRENTO—ASCENSION PARISH
United Land Co., Gulf Ref. Co..... abd
SULPHUR—CALCASIEU PARISH
Fee, Union Sulphur Co. 749.....2500
Fee, Union Sulphur Co. 746.....2000
Fee, Union Sulphur Co. 736..... abd
THIBODAUX—LAFOURCHE PARISH
Stark, Gulf Ref. Co. 14..... abd
S.ark, Gulf Ref. Co. 23..... abd
VINTON—CALCASIEU PARISH
Green, Seiss Oil Synd. 8 (W.O.)..... 30
Matilda Gray, Vinton Pet. Co. 2..... 500

EAST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bowie	0	0	0	0	0	1	1
Camp.	0	0	0	0	0	1	1
Harrison	0	0	0	0	0	3	3
Panola	6	0	0	6	6	6	12
Red River	0	0	0	0	0	3	3
Shelby	0	0	0	0	0	3	3
Total Sept.	6	0	0	6	6	17	23
Total Aug.	9	150	1	7	5	16	21
Difference	3	150	1	1	1	1	2

WELLS COMPLETED
PANOLA COUNTY
B. C. Jordan Sur.; T. C. Adams et al Adams 6 ..... gas
Thomas Cox Sur.; T. C. Adams et al, Adams 7 ..... gas
B. C. Jordan Sur.; Arkansas-Louisiana Pipe Line Co., Brumble 1 ..... gas
E. Jones Sur.; Magnolia Pet. Co., T. C. Adams 4 ..... gas
Jane Thorpe Sur.; Natural Gas Producing Co., Mays 1 ..... gas
Jane Thorpe Sur.; D. Thomason, Trosper 3 ..... gas

Wells completed 6
Gas 6
Gas production 8,000,000

LOUISIANA-ARKANSAS

ARKANSAS
Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Ashley	0	0	0	0	0	1	1
Clark	0	0	0	0	0	1	1
Columbia	1	0	1	0	0	2	2
Calhoun	1	0	1	0	0	0	0
Garland	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Faulkner	1	0	1	0	0	0	0
Johnson	0	0	0	0	0	2	2
Lincoln	0	0	0	0	0	1	1
Little River	0	0	0	0	0	3	3
Logan	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Miller	0	0	0	0	0	1	1
Nevada	0	0	0	0	0	1	1
Ouachita	11	722	0	0	5	20	25
Pope	0	0	0	0	1	0	1
Prairie	0	0	0	0	1	0	1
Pulaski	1	0	1	0	0	0	0
St. Francis	1	0	1	0	0	0	0
Union	13	261	7	1	7	17	24
Van Buren	0	0	0	0	0	1	1
Washington	0	0	0	0	0	3	3
White	0	0	0	0	0	1	1
Total Sept.	29	984	12	1	14	53	72
Total Aug.	8	362	7	2	14	53	67
Difference	21	622	5	1	0	5	5

*Gas production: Union 720,000 feet.

NORTH LOUISIANA
Summary of Field Operations

	Comp.	Prod.	Dry	*Gas	Rigs	Drg.	Ttl.
Bienville	1	0	1	0	0	0	0
Bossier	3	100	0	2	2	10	12
Caddo	17	6,301	6	1	9	25	34
Catahoula	0	0	0	0	0	1	1
Claiborne	3	0	3	0	1	2	3
DeSoto	1	0	1	0	2	4	6
Franklin	0	0	0	0	0	1	1
Jackson	1	0	1	0	0	0	0
LaSalle	4	35	2	0	2	5	8
Morehouse	5	0	0	5	4	5	9
Natchitoches	0	0	0	0	1	2	3
Ouachita	12	0	2	10	14	9	23
Rapides	0	0	0	0	0	1	1
Red River	1	15	0	0	3	5	8
Richland	5	0	1	4	6	21	27
Sabine	1	0	1	0	3	7	10
Union	3	0	0	3	3	1	4
Webster	4	129	1	1	5	10	15
West Carroll	0	0	0	0	0	2	2
Winn	1	30	0	0	0	2	2
Total Sept.	60	6,610	18	25	55	112	167
Total Aug.	77	4,553	28	27	49	114	163
Difference	17	2,057	10	2	6	2	4

*Gas production: Bossier, 14,000,000 feet; Caddo, 200,000 feet; Morehouse, 23,098,000 feet; Ouachita, 38,808,000 feet; Richland 89,-193,000 feet; Union, 17,209,000 feet; Webster, 51,247,040 feet; total, 233,755,040 feet.

ARKANSAS
WELLS COMPLETED
CALHOUN COUNTY
25-16-13 Freeman-Smith Lbr. Co., Phillips Pet. Co. 1 ..... dry
COLUMBIA COUNTY
11-20-23 Dennis, Arpeco Synd. 1 ..... dry
FAULKNER COUNTY
17-4n-13 Stermer, Gold Creek Oil & Gas Synd. 1 ..... dry
OUACHITA COUNTY
25-15-18 Wilson, Houston Oil Co. 2-A.. 65
26-15-18 Wilson, E. M. Jones 1-A ..... dry
24-15-18 Wilson, George Khouri 1 ..... dry
36-15-16 Linahan, Magna Prod. Co. 10-B 30
36-15-16 Linahan, Magna Prod. Co. 11-B 8
34-15-15 Clayton, Phillips Pet. Co. 1 .. 20
34-15-15 Scott, Phillips Pet. Co. 1 246
34-15-15 Scott, Phillips Pet. Co. 3 189
33-15-15 Berry, Sinclair Oil Co. 16 150
27-15-15 Farris, Sundby et al 1 15
25-14-18 Wright, Timberlake et al 1 .. dry

Wells completed 11
Production 723
Dry 3

PULASKI COUNTY
21-2n-11 Wilson, Wonder State Dev. Co. 1 ..... dry
ST. FRANCIS COUNTY
32-4-4 Halbert, W. F. Harris 1 ..... abd
UNION COUNTY
2-16-16 Bradley, E. L. Chapman 1 15
2-16-16 Bradley, E. L. Chapman 2 (drk.) ..... abd
13-17-14 Hargett, O. W. Estes (loc.) .. abd
24-17-14 Ramsey, O. W. Estes (drk.) .. abd
15-17-14 Schmidt, Gann et al 1 (drk.) . abd
6-16-15 McClanahan, Imperial Oil & Gas Products Co. 6 ..... gas
9-16-15 Murphy, Imperial Oil & Gas Products Co. 2 25
10-16-15 Flenniken, Llon Oil Ref. Co. 9-A 15
1-18-14 Union Sawmill, Joe Modisette 1 dry
30-16-13 Stout Lbr. Co., Acct. 2, Ohio Oil Co. 1 ..... dry
9-17-14 Perdue, Oilwell Corp. 2-E .... dry
10-17-14 E. F. Gregory, Pure Oil Co. 10 60
3-16-15 Johnson, The Texas Co. 11 .. 146

Wells completed 13
Production 361
Gas 1
Gas production 720,000
Dry 7

NORTH LOUISIANA
WELLS COMPLETED
BIENVILLE PARISH
15-16-6 Snyder, W. G. Gray 1 ..... dry

BOSSIER PARISH

36-16-12 Van Hoose, Ark.-La. Pipe Line Co. 5-B ..... gas
38-23-11 Bollinger, Delaware-Louisiana Dev. Co. 4 100
14-17-12 Roscoe, Palmer Corp. 1 ..... gas

Wells completed 4
Production 100
Dry 1
Gas 2
Gas production 14,000,000

CADDO PARISH

15-21-15 Huckaby-Odell, H. J. Bussa 7 15
34-21-16 Levee Board, W. D. Chew 1-C 40
34-21-16 Levee Board, W. D. Chew 2-C 2
13-21-15 Dillon, Dixie Oil Co. 92 ..... gas
15-21-15 Spell, Double H Oil Co. 11 ... 10
29-20-15 Nunneley, Falcon Oil Co. 1 ... 40
31-21-15 Muslow, C. H. French 6 10
17-19-14 Hunter, Gold & Sklar 3 (drk.) abd
17-19-14 Hunter, Gold & Sklar 4 (loc.) abd
17-19-14 Hunter, Gulf Refining Co. 3..2642
10-20-16 Curtis, Oil City Oil Co. 6 6
16-19-14 School fee, Standard Oil Co. 1 366
31-20-14 Glassell & Dickson, A. H. Tarver 1 ..... dry
8-19-14 Hunter, The Texas Co. 1 3125
27-21-16 Levee Board, The Texas Co. 71 45
33-22-15 Ivins, L. A. Warren 2 ..... dry
11-15-12 Knight, Woodley Pet. Co. 1-B. dry

Wells completed 17
Production 6301
Dry 6
Gas 1
Gas production 200,000

CLAIBORNE PARISH

29-20-5 Moseley, Nesbit et al 1 ..... dry
17-23-8 Miller, Smitherman & McDonald & Gulf Ref. Co. 1 ..... dry

DESOTO PARISH

28-12-11 Mason, Magnolia Pet. Co. 2... dry

JACKSON PARISH

24-16-1w Tremont Lbr. Co., George O. Baird 1 ..... dry

LASALLE PARISH

26-10-1e Fee, Air Lift Oil Co 1 ..... dry
26-10-1e Mo. Pac. Ry., Air Lift Oil Co. 3 dry
17- 7-2e L. & A. Ry., Tunica Pet. Co. 49 20
16- 7-2e L. & A. Ry., Tunica Pet. Co. 51 15

Wells completed 4
Production 35
Dry 3

MOREHOUSE PARISH

14-20-4 Seacrease, Grecian Bend Gas Co. 1 ..... gas
18-20-5 Bowles, J. S. Herkness 8 ..... gas
18-20-5 Allison, S. D. Hunter 10 ..... gas
31-21-4 Tensas, Southern Carbon Co. 11. gas
28-19-4 McEnery, Ark.-La. P. L. Co. 3.. gas

Wells completed 5
Gas 5
Gas production 23,098,000

OUACHITA PARISH

11-18-3 Wall, Austin & Jordan 2 ..... gas
19-19-4 McEnery, J. B. Bond 2 ..... gas
20-20-5 Bowles fee, J. S. Herkness 7 .. dry
18-19-4 Stubbs, Imperial O. & G. Prod. Co. 9 ..... gas
1-18-3 J. Cole, Jordan Drlg. Co. 4 .. gas
30-20-5 Fee, La.-Del. Prod. Co. 49 .... gas
13-18-4 Schultz, Mack & Piper 1 .... gas
48-18-4 Slagle-Johnson, Mack & Pipes 1 gas
15-19-5 Fee 404, Magnolia Pet. Co. 2 .. gas
25-19-2 D'Arbonne, Ouachita Nat. Gas Co. 2-B ..... jkd
7-18-4 Potts, J. Potts, trustee 3 ..... gas
4-19-4 Fairbanks, Southern Carbon Co. 13 ..... gas

Wells completed 12
Dry 2
Gas 10
Gas production 38,808,000

RED RIVER PARISH

32-13-10 Lockett, J. H. Askew 1 15

RICHLAND PARISH

17-17-6 Millsaps, Austin & McDonald 1 gas
33-16-6 McCoy, W. C. Feazel 2 ..... gas
33-16-6 Beck, International Gas Products Co. 1-A ..... gas
26-17-6 Eubanks, Hope Prod. Co. 1 .... gas
22-17-6 Binion & Sartor, S. R. Humble 1 dry

Wells completed 5
Dry 1
Gas 4
Gas production 89,193,000

SABINE PARISH

18-8-13 Long-Bell, A. H. Tarver 2 .... dry

UNION PARISH

17-20-4 Peake, Bahan & Bahan 2 ..... gas
10-20-3 School, Bahan & Bahan 2 ..... gas

Gas production 17,209,000

WEBSTER PARISH

33-23- 9 Roseberry, J. W. Clark, tr. 1.. 25
11-22-10 R. D. Campbell, W. M. Kemp, et al. 1 (jkd.) ..... dry
21-21-10 Robbins, Magnolia Pet. Co. 5-A gas
19-23- 9 Roseberry, Magnolia Pet. Co. 1 104

Wells completed 4
Production 129
Dry 1
Gas 1
Gas production 51,247,000

WINN PARISH

26-10-1e Harper, Gardner, Harter & Brown 15 30

WEST TENNESSEE

	Rigs	Drlg.	Ttl.
Decatur	0	2	2
Fayette	0	1	1
Total September	0	3	3
Total August	0	3	3
Difference	0	0	0

ALABAMA

	Rigs	Drlg.	Ttl.
Choctaw	0	1	1
Lamar	0	1	1
Sumpter	0	1	1
Washington	0	2	2
Total September	0	5	5
Total August	0	5	5
Difference	0	0	0

MISSISSIPPI
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Alcorn	0	0	0	0	0	1	1
Chickasaw	0	0	0	0	0	1	1
Harrison	0	0	0	0	1	0	1
Hinds	0	0	0	0	1	3	4
Humphreys	0	0	0	0	0	1	1
Lauderdale	0	0	0	0	1	2	3
Lincoln	0	0	0	0	0	1	1
Monroe	1	0	1	0	0	3	3
Warren	0	0	0	0	0	1	1
Yalobusha	0	0	0	0	0	1	1
Total Sept.	1	0	1	0	3	14	17
Total Aug.	2	0	1	1	3	15	18
Difference	1	0	0	1	0	1	1

WELLS COMPLETED
MONROE COUNTY

22-15-17 Rye, Ark.-La. Pipe Line Co. 1.. dry

KENTUCKY-TENNESSEE

KENTUCKY
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Warren	5	21	5	0	0	2	2
Allen	7	4	5	0	0	6	6
Barren	1	60	0	0	0	1	1
Ohio	90	6,226	28	4	0	65	65
Daviess	26	1,276	5	0	4	44	48
Hancock	0	0	0	0	0	2	2
McLean	3	45	0	0	0	4	4
Henderson	2	75	1	0	0	6	6
Webster	0	0	0	0	0	3	3
Muhlenberg	5	1,050	2	0	2	10	12
Hopkins	1	0	0	1	0	7	7
Butler	0	0	0	0	1	1	2
Breckenridge	0	0	0	0	0	2	2
Cumberland	0	0	0	0	0	2	2
LaRue	1	0	1	0	0	0	0
Christian	0	0	0	0	3	3	6
Wayne	2	25	1	0	0	5	5
Powell	0	0	0	0	0	1	1
Estill	0	0	0	0	0	3	3
Wolfe	1	1	0	0	0	0	0
Lee-Owsley	1	3	0	0	0	2	2
Johns'n-Mag'fin	1	5	0	0	0	3	3
Floyd	1	5	0	0	0	3	3
Clay	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Knox	0	0	0	0	0	1	1
Total Sept.	146	8,791	48	5	10	176	186
Total Aug.	123	4,840	23	5	14	217	231
Difference	23	3,951	25	0	4	41	45

KENTUCKY
WELLS COMPLETED
WARREN COUNTY

Bowling Green—Lydia E. Porter, P. H. Lavelle 6 20
Frank Russ, Schriver & Co. 1 ..... dry
J. H. McLemore, H. J. Winans 2 .... dry
John Lockhart, W. H. Martin & Co. 1 1

Wells completed 5
Production 21
Dry 3

ALLEN COUNTY

Scottsville—F. E. Foster, Samson & Co. 1, 2 ..... dry
W. D. Osborne, W. D. Osborne 9 2
Pauline Gibson, W. P. Harley 2 2
E. H. Woods, Mid-Southern Oil 28 .. dry
George Superior, J. F. Finch 10 ..... dry
D. S. Ewing, Sturm & Pearson 12 .. dry

Wells completed 7
Production 4
Dry 5

OHIO COUNTY

Hartford—A. B. Ralph, James C. Ellis & Co. 3 3
A. B. Ralph, James C. Ellis & Co. 4.. 10
Ellis Bartlett, James C. Ellis & Co. 2 dry
Clay Ford, James C. Ellis & Co. 2 .. 40
Albert Payne, James C. Ellis & Co. 1 75
Ira Moseley, James C. Ellis & Co. 5.. 30
Ira Moseley, James C. Ellis & Co. 6.. 30
Ira Moseley, James C. Ellis & Co. 7.. 50
Ira Moseley, James C. Ellis & Co. 8.. 100
Ira Moseley, James C. Ellis & Co. 9.. dry
Barnett's Church, R. W. McMahan & Co. 1 150
Sally Hoover, Rex-Pyramid Oil 2 250
Sally Hoover, Rex-Pyramid Oil 3 150
Sally Hoover, Rex-Pyramid Oil 4 200
Sally Hoover, Rex-Pyramid Oil 5 150
Sally Hoover, Rex-Pyramid Oil 6 150
Sally Hoover, Rex-Pyramid Oil 7 200
Sally Hoover, Rex-Pyramid Oil 8 200
Sally Hoover, Rex-Pyramid Oil 9 350
Sally Hoover, Rex-Pyramid Oil 10 450
Rhodes, Rex-Pyramid Oil 1 150
Wm. Morgan, Rex-Pyramid Oil 4, 5, 6 dry
Mason-Bartlett, Hupp & Duff 1 250
Mason-Bartlett, Hupp & Duff 2 250
Mason-Bartlett, Hupp & Duff 3 300
Mason-Bartlett, Hupp & Duff 4 200
Mason-Bartlett, Hupp & Duff 5 500
Mason-Bartlett, Hupp & Duff 6 500
Mason-Bartlett, Hupp & Duff 7 350
Payton Royal, H. L. Ogle & Co. 12 .. 25
Payton Royal, H. L. Ogle & Co. 13 .. 30
Payton Royal, H. L. Ogle & Co. 14 .. 30
Payton Royal, H. L. Ogle & Co. 15 .. 100
James A. Kirk, The Ohio Oil 14 125
James A. Kirk, The Ohio Oil 15 100
Whittaker, The Ohio Oil 5 15
W. B. Kelley, The Ohio Oil 9 50
J. A. Kirk, The Ohio Oil 16 ..... dry
O. H. Kirk, Cumberland Pet. 1 ..... dry
Cicero Wade, Cumberland Pet. 1 200
Cicero Wade, Cumberland Pet. 2 200
Cicero Wade, Cumberland Pet. 3, 4 .. dry
Kate Funk, C. E. Daugherty & Co. 1. dry
Kate Funk, C. E. Daugherty & Co. 2. 35
C. A. Kelley, Penn-Indiana Oil 9 35
M. E. Medcalf, Chester Oil 5 60
Norris heirs, Fred Weir & Co. 6 7
Norris heirs, Fred Weir & Co. 7 15
Norris heirs, Fred Weir & Co 8 10
Norris heirs, Fred Weir & Co. 9 15
J. E. Mitchell, Wood Oil 9 8
J. E. Mitchell, Wood Oil 10 5
R. A. Dukes, Wood Oil 12 95
Wm. Whorbrey, Wood Oil 1 ..... dry
J. C. Smith, Wood Oil 12 60
R. A. Duke, Wood Oil 13 ..... gas
Mary E. Wilson, Sunnydale O. & G. 10 20
T. N. Weatherford, Shell Pet. Corp. 3. 8
T. N. Weatherford, Shell Pet Corp. 2. dry
R. E. Jackson, Shell Pet. Corp. 1 .... dry
O. D. Whittaker, Pratt Bros. 1 ..... dry
S. P. Finn, Critzer & Kuebler 1 ..... dry
J. C. and J. M. Westerfield, Daly & Lowman 1 ..... dry
Benny Bartlett, Daly & Lowman 1 .. dry
Ira Bryant, Whittmer O. & G. 2 .... dry
Ernest Patton, Standard Oil of Ky. 1 dry
Dodson heirs, Tracy Supply Co. 4 .... dry
J. M. Aslop, Frank Cox & Co. 1 .... dry
Lee Whittaker, Daly & Lowman 1 .. dry
Lon Ralph, Wade & Moore 1 ..... dry
Ernest Bickett, White & Co 1 35
Nancy Farmer, Sirman Co. 25 100
Nancy Farmer, Sirman Co. 26 50
P. T. Brown, Russell & Randolph 1 .. dry
H. C. Greer, Russell & Randolph 8 ... 50
Kirk & Woodward, George Siate & Co. 1 ..... dry
Jeff Wade, D. J. White & Co. 4 10
Magan, Snowden-McSweeney 2 ..... dry
Ida Kelley, H. C. Smith Oil Co. 6 .... dry
J. E. Hendrix, Ray Bigler & Co. 9 ... dry
A. P. Kelley, S. R. Nigh & Co. 11 10
Muffett, Fred Weir & Co. 1 ..... gas
Sam Miller, Armistead Oil 1 ..... gas
Deanfield, Missouri-Kansas P. L. 1 ... gas
J. L. and J. H. Ralph, C. Claypool & Co. 14 10
Newton, Clavert, Rowe & Co. 1 25
Cicero Wade, Cumberland Pet. 5..... 200

Wells completed 90
Production 6826
Dry 28
Gas 4

DAVIESS COUNTY

Owensboro—Joe Birkhead, Creek Drlg. 2 35
Bob Hamilton, Creek Drlg. 2 25
Davis, Evans & Garrison 1 500
I. J. Clark, Evans & Garrison 1 110
Ira Montgomery, H. C. Smith Oil 1 .. dry
Rebecca Westerfield, James C. Ellis & Co. 2 ..... dry
E. L. Burns, The Petroleum Co. 18 .. dry
Tony Hansford, The Petroleum Co. 4.. 30
H. B. Trodgen, Trognite Oil & Gas 7.. 15
First Natl. Bank, Penn-Indiana Oil 8 60
F. F. Coomes, Petroleum Explin. 6 ... 3
W. R. Russell, Petroleum Explin. 1 .. 35
Louis May, Goldburg, Young & Co. 1.. 15
Louis May, Goldburg, Young & Co. 2.. 50
Louis May, Goldburg, Young & Co. 3.. 50
Louis May 3-A, Brown & Engle 2 ... 8
J. L. Park, L. C. Young 6 50
Ollie Duff, Jim Smith 1 5
M. D. Yeiser, Duncan, Raydure & Young 2 75
Pete Mahloskey, Leeper Oil 8 60
L. C. Mattingley, Foster Oil Corp. 1.. dry
Frank Fuqua, Dahlgren & McMahan 1 60
Fireline, Stimson & Robbins 5 50
M. C. Ruby, Eastern Gulf Oil 9 30
G. R. Ruby, The Ohio Oil 3 10
A. C. Atherton, Roy Hogan & Co. 1 .. dry

Wells completed 26
Production 1276
Dry 3

McLEAN COUNTY

Calhoun—Near Nuckols, Sargent & Co. 1 25
McManama No. 2, The Ohio Oil 2 10
McManama No. 2, The Ohio Oil 3 10

Wells completed 3
Production 45

HENDERSON COUNTY

Niagara—J. E. Knight, H. Z. Clark 2 .. 75
H. C. Eades, Arnold & Esslinger 1 ... dry

Wells completed 2
Production 75
Dry 1

MUHLENBERG COUNTY

Greenville—R. O. Kennedy, The Ohio Oil 3 700
Rice Bros.-Woodson, James C. Ellis & Co. 1 150
Jack Corley, Missouri-Kansas P. L. 1. 200
Finis Martin, E. M. Treat Co. 1 ..... dry
R. B. Shaver, Wood Oil 1 ..... dry

Wells completed 5
Production 1050
Dry 2

HOPKINS COUNTY

Madisonville—Lester, Missouri-Kansas P. L. 1 ..... gas

LA RUE COUNTY

Hodgenville—Moore, F. C. & Co. 5 .... dry

WAYNE COUNTY

District 13—Wm. Betram, George A. Hook & Co. 13 ..... dry
Nancy Jones & Co., Wm. O. Southern, Jr. 10 25

Wells completed 2
Production 25
Dry 1

WOLFE COUNTY

District 9—James B. Roberts, Garrison Bros. & Co. 4 1

LEE-OWSLEY COUNTIES

District 17—Calmes-Park, Superior Oil Corp. 4 3

JOHNSON-MAGOFFIN COUNTIES

District 29—Milt Tackett, Hamlin-Tanner Oil 5 5

TENNESSEE FIELD
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Dixon	1	40	0	0	0	0	0

WELLS COMPLETED
DICKSON COUNTY

Jones Creek—J. M. Brown, St. Louis parties 1 40

ROCKY MOUNTAIN AREA

MONTANA
Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Cat Creek	0	0	0	0	0	1	1
Kevin-Sunb'st.	37	873	7	6	7	35	42
Pondera	4	375	0	0	3	3	6
Miscellaneous.	10	20	4	4	6	74	80
Total Sept..	51	1,268	11	10	16	113	129
Total Aug...	60	1,078	13	16	20	101	121
Difference .	9	190	2	6	4	12	8

COLORADO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boulder	2	0	2	0	1	4	5
Fremont	2	0	2	0	1	11	12
Jackson	1	0	1	0	0	7	7
Larimer	0	0	0	0	2	5	7
Las Animas.	4	0	2	2	2	3	5
Moffat	0	0	0	0	6	4	10
Pueblo	1	0	1	0	1	3	4
Rio Blanco	0	0	0	0	0	2	2
Routt	1	0	1	0	2	3	5
Yuma	0	0	0	0	0	2	2
Miscellaneous	0	0	0	0	1	32	33
Total Sept.	11	0	9	2	16	76	92
Total Aug.	6	252	1	0	12	80	92
Difference	5	252	8	2	4	4	0

NEW MEXICO
Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Catron	1	0	1	0	0	0	0
Chaves	1	0	1	0	0	4	4
DeBaca	1	0	1	0	0	3	3
Eddy	8	485	3	0	3	8	11
Lea	9	2,620	5	0	6	22	28
McKinley	0	0	0	0	4	7	11
Rio Arriba	0	0	0	0	1	4	5
San Juan	1	5	0	0	3	12	15
Socorro	1	0	1	0	0	0	0
Miscellaneous.	0	0	0	0	4	11	15
Total Sept...	22	3,110	12	0	21	71	92
Total Aug...	9	780	6	2	21	85	106
Difference ..	13	2,330	6	2	0	14	14

WYOMING
Summary of Field Operations

District or County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Salt Creek	4	2,716	1	0	3	7	10
Big Horn	1	0	0	1	0	7	7
Carbon	2	100	0	1	1	17	18
Fremont	2	0	1	1	0	11	11
Hot Springs.	1	0	1	0	0	4	4
Johnson	1	130	0	0	1	1	2
Lincoln	1	0	1	0	2	7	9
Natrona (exc. Salt Creek)	3	200	1	0	1	9	10
Park	3	600	1	0	5	32	37
Sweetwater	2	0	1	1	4	11	15
Sublet	2	50	1	0	2	21	23
Weston	1	25	0	0	1	3	4
Uinta	1	0	1	0	4	15	19
Miscellaneous	0	0	0	0	2	11	13
Total Sept.	24	3,821	9	4	26	156	182
Total Aug.	15	3,126	6	0	31	159	190
Difference	9	695	3	4	5	3	8

UTAH
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total Sept.	2	0	2	0	2	29	31
Total Aug.	0	0	0	0	2	31	33
Difference	2	0	2	0	0	2	2

WELLS COMPLETED
MONTANA

31-35-1 Allen, Big West Oil Co. 31.... 60
25-35-1 McKee, California Co. 10..... 25
22-35-2 Newman, California Co. 10.... 12
27-35-2 Smoke, California Co. 13..... 5
24-35-2 Haggerty Coeur d'Alene Co. 4 20
29-35-2 Jarrett, A. E. Crumley 3..... Gas
8-34-1 Wilcox, Dakota Montana 7.... Dry
10-35-2 Bruins, Tom Davis Synd. 9.... 25
10-35-2 Bruins, Tom Davis Synd. 10... 60
10-35-1 Levenick, Deloraine Synd. 7.... 10
29-35-1 Anderson, Ferdig Oil Co. 21... 15
29-35-1 Jarrett, "56" Petro. Corp. 4.. 215
29-35-1 Jarrett, "56" Petro. Corp. 5.... 50
13-33-2 Benjamin, Hannah Porter 1.. Gas
19-33-1 Esteson, Hannah Porter 1.... Gas
22-35-2 Lorensen, L. W. Hill 18..... 17
22-35-2 Lorensen, L. W. Hill 19..... 20
21-35-2 McManus, L. W. Hill 7..... 25
20-35-1 Zachor, J. N. B. Co. 1..... 10
19-34-1 Donovan, L. C. Smith 1..... Dry
24-34-2 Morton, Marine Oil Co. 1..... 20
24-34-2 Morton, Marine Oil Co 2..... Gas
28-35-1 Dipple, Monopeg O. & G. 10
35-33-2 Kohnen, Northern Nat. G. Co. 1 Gas
25-35-3 Stewart, Oh Boy Oil Co. 1.... 35
15-35-2 Emmert, Ohio Oil Co. 9..... 125
12-34-2 Adams, Radigan Hungerford 4 Dry
30-35-1 Anderson, C. A. Remington 8.. 25
3-33-1 Seward, Sunburst O. & R. 2.... Gas
29-35-1 Maughans, Sweeney O. Co. 9-A 5
29-35-2 Kal-Kevin, Texas Pacific C. & O. 9 4
29-35-2 State, Texas Pacific C. & O. 51 40
28-35-1 Moe, Texas Prod. 18 40
28-35-1 Moe, Texas Prod. Co. 19..... Dry
20-34-1 Adams, Turner Platt O. & G. 1 Dry
18-35-2 Peterson, Westmont Oils 1.... Dry
27-35-3 Davis, Majestic Oil Co. 2..... Dry
8-27-4 Jones, Fulton Petro Co. 1..... 15
17-27-4 Jones, Midwest Refg. Co. 13NE 125
16-27-4 State, Kevin Corp. 4. 225
17-27-4 Jones, Warren Oil Co. 2..... 10
5-25-1 Speer, "56" Petro 6..... 8
8-25-1 Genou, Sterling Oil Co. 2..... 12
36-28-6 State, Cypress Oil Co..... Dry
29-29-1 Keil, Adams Co., Trustee ..... Dry
21-26-4 Malone, Texas Prod. 1..... Dry
1-34-6 Yonck, Drumheller et al ..... Gas
7- 3-1 Signal Hill Oil Co. 1..... Dry
22-6-60 Gas Development Co. 37..... Gas

2- 5-60 Gas Development Co. 2..... Gas
36- 9-58 Gas Development Co 46..... Gas

Completions 51
Production 1,268
Dry 10
Gas 16

COLORADO
WELLS COMPLETED

7-6n-66 Dennis, Texas Prod. Co. 4.... dry
5-26-61 Unger, Kime Pet. Co. 1..... dry
27-29-60 Pepper, Helium Co. 1..... dry
1-30-60 McDonald, K. E. Cowdrey 1... dry
35-29-60 Morris, Helium Co. 1..... gas
35-29-60 Huff, Helium Co. 1..... gas
31-11-79 Hunter, Crude Oil Detector Co. 1 ..... dry
35-18-70 Steinmier, Continental Oil 6.. dry
8-19-70 Smelter, Continental Oil Co. 1 dry
18 3n-70 Campbell, Johnson et al 1.... dry
18-3n-70 McFadden, Johnson et al 1... dry

Wells completed 11
Gas 2,000,000
Dry and abandoned 9

NEW MEXICO
WELLS COMPLETED

35-2n-16 Fenner & Bailey 1-S..... dry
24-11-27 State, Buffalo-Roswell Oil 1. dry
16-1s-27 McAdoo, Pittsburg Oil Co. 1.. dry
19-17-31 Maxmillian Friess 1 ..... abd
19-17-30 Burch, Grayburg Oil Co. 2.... 45
12-17-30 Gissler, Flynn, Welch & Yates 2 120
34-17-29 Lee, Pueblo Oil Co. 1..... 20
7-17-31 Keel, Prairie O. & G. 2..... 100
18-17-31 Russell, Pueblo Oil Co. 4..... 200
29-17-27 Rich, Eaton et al 1..... dry
8-20-30 Cunningham, Continental Oil 1 dry
25-25-36 Humphreys, Gypsy Oil Co. 1.. dry
28-20-34 Flint, Contiental Oil Co. 1.... dry
2-21-33 State, Cranfill & Reynolds 1-B 650
3-19-38 Capps, Midwest Ref. Co. 31... 850
6-26-37 Shepherd, Texas Prod. Co. 1..1000
18-20-32 Humphreys, Texas Prod. Co. 1 dry
12-21-33 State, Joe Cook et al 1..... dry
13-17-34 State, Vacuum Oil Co. 1..... 120
30-20-33 McGeorge, Ohio Oil Co. 1.... dry
28-29-11 Viles, Iowa Oil Synd. 1..... 5
13-6s-1w Apache, Arnold et al ..... dry

Wells completed 22
Production 3110
Dry and abandoned 12

WYOMING
WELLS COMPLETED

8-18-116 Minton et al 1 ..... dry
17-46- 63 La Fleishe Oil Co. 1..... 25
11-29-115 Bushell, California Co. 1.. .. dry
34-27-113 Calif. Pet. Co. 3-D-2 59
2-12-101 Humphreys, Mountain Fuel Sup. ..... dry
24-19-104 Arnold, Mt. Fuel Supply 1... gas
7-51-100 Trumbull, Big Horn Pet. 1.. dry
11-49-102 T. N. Clark 1..... 100
25-58- 98 Rosenberg, Midwest Ref. 36.. 500
4-39- 79 Kentz, Mosher et al 1..... 50
3-33- 83 Fargo-Western Oil 17 150
22-31- 81 Baird, Prairie O. & G. 1 .... dry
26-40- 79 Wyo. Associated 19-SD-2 ... 370
35-40- 79 Midwest Oil Co. 24-SD-2 ... 262
6-40- 79 Midwest interests 27-A ..... dry
35-40- 79 NW Wyo. Asso. 13-SD-3 ...2084
35-22-115 Waterfall, Midwest Ref. 1 .. dry
16-48- 82 State, Carter Oil Co. 2..... 130
2-44- 96 McPherson et al 1 ..... dry
9-32- 95 Producers & Refiners 2..... wtr
14-32- 95 Producers & Refiners 7 ..... gas
34-20- 78 Dickinson, Ohio Oil Co. 10.. 100
7-26- 89 Producers & Refiners 8..... gas
33-56- 97 Easton, Ohio Oil Co. 1..... gas

Wells completed 24
Production 3821
Gas 140,000,000
Dry and abandoned 9

UTAH
WELLS COMPLETED

29-4s-1e Farnsworth, Utah South. Oil 1 dry
16-27-16 Shick, Phillips Pet. Co. 1..... dry

Wells completed 2
Dry and abandoned 2

EASTERN FIELDS

Summary of Work Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	40	73	0	0
Bradford	287	403	1	1
Middle Field	14	31	2	0
Venango-Clarion	45	96	5	1
Butler-Armstrong	16	36	1	0
S. W. Pennsylvania	19	74	1	7
West Virginia	75	339	16	29
Southeast Ohio	107	2,148	23	17
Total September	603	3,200	49	55
Total August	604	2,200	55	44
Difference	1	1,000	6	11

Summary of Work Under Way

Field—	Rigs	Drg.	Ttl.
Allegany	7	17	24
Bradford	38	158	196
Middle Field	0	4	4
Venango-Clarion	4	27	31
Butler-Armstrong	6	22	28
Southwest Pennsylvania	7	29	36
West Virginia	34	141	175
Southeast Ohio	27	87	114
Total September	123	485	608
Total August	122	455	577
Difference	1	30	31

ALLEGANY FIELD
WELLS COMPLETED

Forest Oil Corp., 3 water wells....pressure
Forest Oil Corp., 7 oil wells 7
Hastings, Currie & Burns..... 1
Wheaton, Dusenburg & Raymond..... 1
Fee, L. Willis estate..... 1
Fee, L. W. Shaner et al..... 2
Fee, J. A. Bucher..... 3
Coast et al, M. J. Crowley et al..... 5
Coast et al, M. J. Crowley et al..... 4
Fee, Penn Pet. Co. 5
Fee, Penn Pet. Co. 5
Fee, McDonald heirs..... 4
Fee, W. F. Lane et al..... 3
Fee, A. J. Matson et al..... 1
Ames, O. A. Eastman et al..... 1
Fee, Bradley Prod. Corp. 1
Fee, Bradley Prod. Corp. 1
J. E. Karl et al, Karl-Weller Oil Corp. 3
J. E. Karl et al, Karl-Weller Oil Corp. 3
J. E. Karl et al, Karl-Weller Oil Corp. 3
J. E. Karl et al, Karl-Weller Oil Corp. 3
J. E. Karl et al, Karl-Weller Oil Corp. 3
Kinley Oil Co., W. E. and P. W. Burdick 1
Kinley Oil Co., W. E. and P. W. Burdick 1
Fee, C. M. and F. J. Lippert..... 2
Fee, Garr Oil Co. 1
Fee, Ryder & Richmond Oil Corp. 1
Fee, Ryder & Richmond Oil Corp. 1
Fee, Ryder & Richmond Oil Corp. 1
Fee, Ryder & Richmond Oil Corp. 1
Fee, Ryder & Richmond Oil Corp. 1
Fee, Jacob Meridan 1
Fee, C. M. and F. J. Lippert..... 2

Wells completed 40
Production 73

BRADFORD FIELD

212 Bing. 19 Esther Oil Corp. 1
F. P. Lawlin 20, Esther Oil Corp. 1
Ments 54, L. F. Kinley et al..... 1
386 Bing. 83 Simpson et al..... 1
386 Bing. 84 Simpson et al..... 2
386 Bing. 85 Simpson et al..... 1
386 Bing. 86 Simpson et al..... 1
H. Morse est. 97 Howard & McCallum. 1
369 Bing. D. W. Daly No. 2, 76..... 1
464 Bing. 32 R. S. Pringle..... 1
Forest Oil Corp., 7 oil wells..... 7
Forest Pet. Corp., 14 oil wells 14
Hawkins Oil Corp., 4 oil wells 4
Niagara Oil Corp., 2..... 2
Hifler H-21, Bradford Prod. Co. 1
Hifler M-17, Bradford Prod. Co. 1
Hifler E-19, Bradford Prod. Co. 2
Bucher 48, Sloan & Zook Oil Co. 2
Summit J-3, Sloan & Zook Prod. Co. .. 1
Summit S-8, Sloan & Zook Prod. Co. ... 1
Willets WA-20, Sloan & Zook Pet. Co. 1
Willets WC-12, Sloan & Zook Pet. Co. 1
Bing. Johnson, S. P. O. Co. 57..... 1
H. E. Smith, S. P. O. Co. 197..... 1
H. E. Smith, S. P. O. Co. 194..... 1
Moody Lot 66, S. P. O. Co. 43..... 1
Tait Lot 135, S. P. O. Co. 14.. ..... gas
Culbertson Lots, S. P. O. Co. 84..... 1
Bing. 387, S. P. O. Co. 15..... 1
Bing. Satterfield, S. P. O. Co. 160..... 1
Bing. 400 acres, S. P. O. Co. 94..... 1
H. E. Smith, S. P. O. Co. 198..... 1
Dent, S. P. O. Co. 127..... 1
Blair, S. P. O. Co. 63..... 1
Lee Hallick & Weston, S. P. O. Co. 110 1
Midland-Keating, S. P. O. Co. 51..... 1
B. I. Taylor, S. P. O. Co. 42..... 1
Hamlin, S. P. O. Co. 127..... 1
Cross, S. P. O. Co. 5..... 1
Cross, S. P. O. Co. 12..... 1
Curtis & Imus, S. P. O. Co. 49..... 1
Cross, S. P. O. Co. 8..... 1
Cross, S. P. O. Co. 17..... 1
Tract 27, S. P. O. Co. 150..... 1
Tract 28, S. P. O. Co. 80..... 1
Tract 23, S. P. O. Co. 179..... 1
Duke, C. A. Duke..... 3
Duke, V. Schopperle..... 1
Duke, V. Schopperle..... 1
Duke, V. Schopperle..... 1
Borden, Staley & Luke..... 3
Baldwin, Golden & Smith..... 3
Norton, Kahle Oil..... 2
Haines, Coast & Storms..... 3
Haines, Coast & Storms..... 2
Borden, Sunny Oil..... 3
Huntington, Denwood Oil..... 4
Melvin, South Penn..... 3
Melvin, South Penn..... 3
Roggenbaum, J. Roggenbaum..... 4
Roggenbaum, J. Roggenbaum..... 4
Simpson, G. A. Simpson (5 wells)..... 20
Fee, Hope Oil..... 5
Devlin, Forest Oil (4 wells)..... 16
Elder & Co., S. H. Elder & Co. (2 wells) 6
Barry, Mary E. Barry et al..... 3
Bingham, H. E. Camp est. 4
Wright, G. McCool et al..... 1
Bingham, South Penn..... 2
Hawkins, Newton-Smith..... 4
Hawkins, Newton-Smith..... 4
Hawkins, Newton-Smith..... 10
Chapin, Linwood Oil..... 4
Fee, Golden & Smith..... 3
Russell, C. E. Potter..... 5
Chamber, Forest Oil..... 5
D. C. & B., C. A. Duke..... 8
D. C. & B., C. A. Duke..... 3
Fee, Mix Creek Oil..... 1
Rasey, J. W. Kaufman est. 3
Rounds, N. V. V. Franchot..... 10
Fee, Messer Oil..... 3
Fee, Messer Oil..... 2
Fee, Curtis & Dunlavey..... 4
Smith est., Gordon H. Smith..... 6
Keating fee, South Penn Oil Co. 12
W. Weston, Jr., South Penn Oil Co. ... 1
H. H. Redfield, South Penn Oil Co. ... 1
Fee, R. O. Landers et al..... 2
Fee, Anna J. VanTine..... 3
Fee, Hazelwood Oil Co..... 2
N. V. V. Franchot, Lillie Oliver..... 3
Fee, Healey Pet. Corp. 1
Fee, Healey Pet. Corp. 1
Fee, Healey Pet. Corp. 1
Fee, Healey Pet. Corp. 1
Fee, South Penn Oil Co. 5
Fee, A. W. Palmer..... 2
Fee, L. G. Dana..... 2
Fee, Jane Zane est. 3
Hostetter est., W. N. Hunter 3
Griffith et al, Tanner & McKean Co. Tr. Co. 5
Quintuple Oil Co., Ione D. Miller et al. 2
Quintuple Oil Co., Mrs. E. Gildersleeve 2
Wilkeson, Berwald & Williams..... 5
Fee, South Penn Oil Co. 1
Fee, Bradford Prod. Co., Inc. 1
Fee, M. Hungville 2
Fee, J. Bliss et al..... 3
Fee, G. C. Hanna 3
Bingham, Hazelwood Oil Co. 2
Fee, P. C. and J. E. McDermitt..... 2
Bingham 452, South Penn Oil Co. 1
Fee, South Penn Oil Co. 1
Bingham, Associated Prod. Co. 1
Bingham 150, South Penn Oil Co. 5
Fee, South Penn Oil Co. 2
N. W. Mining & Exchg. Co., South Penn Oil Co. 2
Bingham, Associated Prod. Co. ..... dry
Bingham 494, South Penn Oil Co. 1
Bingham 439, South Penn Oil Co. 2
Bingham 439, South Penn Oil Co. 2
Bingham 570, South Penn Oil Co. 3
Fee, Olean Pet. Co. 2
Fee, Olean Pet. Co. 2
Fee, Olean Pet. Co. 2
Fee, W. C. Kennedy Co. 2
Fee, W. C. Kennedy Co. 3
Kennedy & Clark, Phoenix Oil Co. 10
Bingham 186, Hazelwood Oil Co. 6
Bingham 390, South Penn Oil Co. 2
Bingham 395, South Penn Oil Co. 3
Bingham 398, South Penn Oil Co. 2
Bingham 580, Associated Prod. Co. 2
Bingham 576, South Penn Oil Co. 2
Quintuple Oil Co., Healey Pet. Co.
Fee, Quintuple Oil Co.
Quintuple Oil Co., Wm. C. Kennedy Co.
Tibbits, Minard Run Oil Co.
Bingham, Walker Bros.
Fee, Robert Roy 1
McMurray, Shannon Bros. 1
Fee, C. A. McFadden..... 2
Foster, T. A. Cannon..... 1
Dent, Minard Run Oil Co. 8
Earl F. Smith, Newton & Smith 3
Earl F. Smith, Newton & Smith 3
Fee, Simpson Cooper Oil Corp.
Fee, H. M. Wick, agent.
Fee, D. W. Daly.
Bingham, Park & Park.
Bingham, Brink & Brink.
Bingham 212, South Penn Oil Co.
Rew & Dodge, South Penn Oil Co.
Borden, W. T. Piper..... 1
Corwin, T. H. Kennedy..... 2
Moore, H. J. Walters..... 2
Gilpin, T. P. Thompson..... 2
Hemlock, C. A. Duke..... 1

Wells completed 287
Oil wells 151
Pressure wells 134
Dry 1
Gas 1
Initial production 403

MIDDLE FIELD

Lot 2,958, South Penn 1
Water Co. lot, Hanson & Johnson 1
Rogers, F. H. Trax 1
Grandin, South Penn 59..... 5
Lot 396, Crescent Oil 25..... 2
Lot 397, B. Hughes 8..... 3
Johnson, Clinger Bros. & Taggart 52.. 5
Johnson, Clinger Bros. & Taggart 53.. 5
Johnson, Johnson & Myers Bros. 17.... 2
Jennings, Titusville Trust 38..... 2
Jennings, Titusville Trust 39 3
Hunter, Clinger O. & G. 37..... 1
Hunter, Clinger O. & G. 38..... dry
Irvine, Crown Central Pet. 56..... dry

Wells completed 14
Production 31
Dry 2

SOUTHWEST PENNSYLVANIA
WELLS COMPLETED
WASHINGTON COUNTY

Morgan, Boyd & Co. 4 35
Shane, Mason & Co. 1 3
Woodburn, Washington Oil Co. 11 3

ALLEGHENY COUNTY

Black Bros., Black Bros. 2 1
Ford, Walley Bros. 1 3
Beadle, Beadle & Co. 2..... gas
Dawson, Reserve O. & G. Co. 5 1
Clendenning, Butchers Oil Co. 7 ..... dry
Uhel, Glenshaw Oil Co. 1 5

BUTLER COUNTY

McFarland, Phillips G. & O. C. 4 20

BEAVER COUNTY

Conkle, G. W. Dawson 1 1
Mason, F. J. Miller 1 1
Kaylor, Unknown 1 1
Sapp, W. R. Sapp 1 ..... gas
Young, J. L. Abrams 1 ..... gas

GREENE COUNTY

Cummings, Equitable Gas Co. 2 ..... gas
Null, Null & Co. 1 ..... gas
Nichols, Carnegie Gas Co. 2 ..... gas
Addleman, Hope C. & R. Co. 2 ..... gas

Completed 19
Production 74
Dry 1
Gas 7

WEST VIRGINIA
WELLS COMPLETED
HARRISON COUNTY

Varner heirs, Varner Bros. & Dennison 1 10

MARION COUNTY

Stiles, Monroe & Laughlin 1 8

MONONGALIA COUNTY

Wilson, So. P. O. Co. 3 ..... dry
McCord, Carnegie Gas Co. 1 ..... dry
Salsberry, Chartiers Oil Co. 1 ..... dry
Headley, Phila. Oil Co. 3 ..... dry
Kerch, Phila. Oil Co. 1 ..... dry

WETZEL AND TAYLOR COUNTIES

Farbee, Carnegie Gas Co. 7 ..... gas
Bartrug, Carnegie Gas Co. 4 15
Watkins, Oakland Oil Co. 1 ..... gas
Shuman, Wade & Carney 1 ..... gas

MARSHALL COUNTY

Reese, B. G. Patterson 1 1
Lindsey, B. G. Patterson 1 ..... gas
Goshorn heirs, Mfrs. L. & H. Co. 2 .... gas

DODDRIDGE COUNTY

Sutton heirs, J. E. Trainer 1 ..... dry
Douglass, Hope C. R. Co. 3 5
Nicholson, Trainer & Travis 5 5

RITCHIE COUNTY

Emery, Frederick & Co. 1 ..... dry
Tingler, Mid Penn Oil Co. 3 3
Barker, W. Va. Utility Co. 1 ..... dry
Lieving, Waggoner & Co. 4 ..... gas
Strusberg Realty Co., Astron Oil Co. 12 4
Foutty, Dry Ridge O. & G. Co. 7 30
U. S. Oil Co., McGinnis & Co. 7 3
Ridgway, Maxwell & Co. 1 ..... dry
Foutty, Pigott & Co. 1 ..... dry
Church lot, Haught & Co. 1 1
Rowland heirs, J. W. Rowland 2 2
Nutter, A. McCullough 1 ..... gas
Bickerstaff, Southern P. O. Co. 7 5
Bickerstaff, Southern P. O. Co. 8 15
Wilson, Southern P. O. Co. 20 110
Jordon, Hope C. & R. Co. 6 5
Moots, Dudley Oil Co. 1 ..... gas

GILMER COUNTY

Miller, Golden Gas Co. 2 ..... gas
Hardman, Hope Gas Co. 1 ..... gas
Frymire, McCall Drilling Co. 1 6
Amos, Southern P. O. Co. 8 5
Stout, Carnegie Gas Co. 1 ..... gas
Huffman, Chartiers Oil Co. 13 ..... gas

CLAY COUNTY

Boman, Big Laurel O. & G. Co. 3 1

WIRT COUNTY

Rathbone Oil Tract, Roberts Bros. 150.. 2

WOOD COUNTY

Guthrie, Haskell & Co. 1 ..... dry
Ralston, Southern P. O. Co. 26 5
McCracken, Oil City Trust Co. 4 ..... dry

PLEASANTS COUNTY

Brothers & Co., Smith & Co. 1 ..... dry
Curtis, Powell & Co. 1 ..... dry

ROANE COUNTY

Stockly, Southern P. O. Co. 97 20
Igo, Pet Oil Co. 1 1
Allen, Heck Oil Co. 1 50
Tallman, Heck Oil Co. 5 4
Enoch, Hope C. & R. Co. 1 20
Williams, Hope C. & R. Co. 1 ..... dry
Paugh, Reedy Oil Co. 1 8

CALHOUN COUNTY

Rafferty, G. L. Cabot 9 5

KANAWHA COUNTY

William Coal Co., Pure Oil Co. 244 10
Cannelton O. Co., Cannelton O. Co. 1.. gas
Elk River Coal Co., U. F. G. Co. 3960. gas

LINCOLN COUNTY

Horse Crk M. & L. Co., U. F. G. Co. 9528 gas

MINGO COUNTY

Marcum, E. J. Evans 1 ..... gas

BOONE COUNTY

Toney heirs, Pure Oil Co. 2 ..... gas
Federal Coal Co., G. L. Cabot 24 ..... gas
Federal Coal Co., G. L. Cabot 29 ..... gas
Bedford, Owens B. & M. Co. 17..... dry
Kirk, Owens B. & M. Co. 1 ..... gas
Allen, Owens B. & M. Co. 17 ..... gas
Jirkle, Ira G. Sayer 1 ..... gas
Jirkle, Ira G. Sayer 2 ..... gas

LOGAN COUNTY

B. C. C. Corp., Clendenin Gas Co. 4 .... gas

CABELL COUNTY

Meadows, Harshbarger O. & G. Co. 1.... gas
McGraw, Larner Gas Co. 1 ..... gas
Keaton, Penn Gas Co. 1 ..... gas
McCallister, U. F. G. Co. 3943 ..... gas
Peyton, Hamilton Gas Co. 4 ..... gas

PUTNAM COUNTY

Morrison, S. A. Lewis 1 ..... dry

Wells completed 75
Production 339
Dry 16
Gas 29

SOUTHEAST OHIO
WELLS COMPLETED
MONROE COUNTY

Burkhart, Goldstein & Co. 2 2
Redeack, Denbow & Co. 1 ..... dry
Friday, Wittenbrook & Co. 1 10
Lohr, Yester & Co. 1 1
Hercher, Southern Oil Co. 18 3
Winland, Sylvania Oil Co. 4 90
Wilson, Shay, McMullin & Co. 4 2
Nieb, Parker Co. 6 25
Nieb, Parker Co. 1 10
Knowlton heirs, Hope C. & R. Co. 11.... 5
Carpenter, trustee, Preston Oil Co. 1 .... gas
Winland, Sylvania Oil Co. 3 ..... dry

PERRY COUNTY

Baker, Baker & Co. 8 80
Glass, Trinway O. & G. Co. 1 ..... gas
Clark, Elder & Co. 3 ..... gas
Love, Preston Oil Co. 2 5
Love, Planet Oil Co. 8 5
Tracy Est. Hope C. & R. Co. 6 4
Offenbacher, Ohio Fuel Gas Co. 2 ..... gas
Brown, Ohio Fuel Gas Co. 1 ..... gas
Gabriel, Pure Oil Co. 2 ..... gas
Cannon, Famous O. & G. Co. 1 ..... gas
Cunningham, Crowley, Carr & Co. 1 .... gas
Brown, McClay Bros. & Co. 1 400

HOCKING COUNTY

Stone, Gordon Oil Co. 10 60
Iles, Freton Oil Co. 2 ..... dry
Woodruff, Sturms & Co. 6 10
Payne, Northern Dev. Co. 1 5
Sunday C. C. Co., Preston Oil Co. 1333.. 325
McCarty, Preston Oil Co. 2 55
Mercer, Hope C. & R. Co. 3 50

GUERNSEY COUNTY

Moore, Craig & Co. 2 20
Brown, Ohio Fuel Gas Co. 2 30
Miller, Ohio Fuel Gas Co. 1 ..... dry
Vistue, Lanock & Co. 1 65
Sager, J. F. Bennett 1 ..... dry
Black, Garlan Oil Co. 1 ..... dry
Walson, Chas. Gray 1 90

HOLMES COUNTY

White-Williams, Ohio Fuel Gas Co. 1 .. gas
Rumbacher, Preston Oil Co. 2 10
Patterson, Ark. Fuel Oil Co. 1 ..... gas
Buler, Kemrow Co. 2 15
Pyers, East Ohio Gas Co. 1 10
Acheson, East Ohio Gas Co. 1 ..... gas
Herman, Logan Gas Co. 1 ..... gas
Fair & Co., Ohio Oil Co. 1 10

MUSKINGUM COUNTY

Cullens, Wittmer O. & G. Co. 1 ..... gas
Toms, Wittmer O. & G. Co. 1 ..... dry

LICKING COUNTY

Ashcraft, M. F. Whitehill 13 10
Martin, Emerald Pet. Co. 5 15
Cochran, Emerald Pet. Co. 1 20
Weaver, Preston Oil Co. 1 5
Corkwell-Spencer, Preston Oil Co. 3 3
Dusthimer, Vaugn & Co. 7 1
Motherspaw, Peoples B. & T. Co. 14 3

Willey, The Wehrle Co. 1 6
Evans, Hope C. & R. Co. 2 30
Plenner, E. H. Everett Co. 2 35
Hoskinson, Patton & Co. 1 1
Williams, North Fork Oil Co. 8 4
Wright, Hope C. & R. Co. 2 3
Esworthy, Pure Oil Co. 3 35
Little, Murphy Pet. Co. 3 15
Porter, Wittmer, trustee 1 ..... gas
Rine, Preston Oil Co. 2 50

COSHOCTON COUNTY

Anderson, Pure Oil Co. 3 20

MORGAN COUNTY

Hallowell, Woodyard & Co. 3 1

NOBLE COUNTY

McKee Bros., McKee Bros. 2 1
Wiper, Ellis, Young & Co. 2 ..... dry

ATHENS COUNTY

Vorhes, Jones & Co. 1 ..... dry
Cadnal, Ralston & Maynard 4 1
Miller, Poorman Oil Co. 1 ..... gas

MEIGS COUNTY

Carnahan, Twenty-Five Assn. 13 25
Camden, Tyree & Co. 5 3
Lott, Tyree & Co. 2 5
Cross, Miller & Co. 5 5
Wolfe, Thompson & Co. 1 ..... dry
Spencer, Hazlett & Co. 1 10
Watson, Hovis Oil & Gas Co. 2 5
Genhimer, O. S. Brawley 7 5

WASHINGTON COUNTY

Dennis, Carner & Co. 1 ..... dry
Jenkins, Lauer & Co. 1 ..... dry
Jones heirs, Sheets Run Oil Co. 2 ..... gas
Barnett, McVey & Co. 4 ..... gas
Lauer, Meister & Co. 2 5
Lauer, Meister & Co. 10 10
Berger, Peoples B. & T. Co. 24 ..... gas

JEFFERSON COUNTY

Hottel, Davis & Co. 1 ..... dry

STARK COUNTY

Holles, Hill Top Oil Co. 4 10
Purcell Lease 2, W. H. Purcell 3 ..... gas

MEDINA COUNTY

Watson, O. K. O. & G. Co. 23 10

ASHLAND COUNTY

Dorenberger, Great Lake Oil Co 1 5
Dorenberger, Great Lake Oil Co. 11 .... dry
Hoffelfinger, Great Lake Oil Co. 9 ..... dry
Peters, Great Lake Oil Co. 15 ..... dry
Strong, Great Lake Oil Co. 15 ..... dry
Young, Great Lake Oil Co. 2 ..... dry
Chesrown, Nicholson O. & G. Co. 2 .... dry
Metcalf, Curtis & Egan 2 ..... dry
Smith, Round Lake Oil Co. 25 ..... dry
Lake Townp. Tstee, Shetler & Shetler 15 dry
Abor & Co., Meltzer & Co. 2 1
Horn, Gold Crown Oil Co. 1 2
Butler, Cameron Oil Co. 1 ..... dry
Briggs, Pure Oil Co. 1 20
Holbert, Preston Oil Co. 1 1
Morris, Preston Oil Co. 1 3

Wells completed 107
Production 2,148
Dry 23
Gas 17

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Wood	2	15	0	0	0	5	5
Hancock	2	35	0	0	1	6	7
Allen	2	30	0	0	0	4	4
Auglaize	2	7	0	0	2	1	3
Sandusky	3	45	1	0	0	4	4
Mercer	1	20	0	0	0	2	2
Van Wert	0	0	0	0	1	0	1
Seneca	9	62	2	3	0	5	5
Lucas	1	6	0	0	0	1	1
Ottawa	1	1	0	0	0	0	0
Wyandot	0	0	0	0	1	0	1
Crawford	0	0	0	0	0	1	1
Huron	0	0	0	0	0	2	2
Ttl. Sept.	23	221	3	3	5	31	36
Ttl. Aug.	17	279	0	2	5	31	36
Difference	6	58	3	1	0	0	0

WELLS COMPLETED
WOOD COUNTY

Freedom—H. G. Foos, Home Banking 3 5
Lake—Simon Achenberger, Lantz & Co. 2 10
Troy—Hille-Linke, D. J. Klingerman 6 7, 11 ..... abd

Wells completed 2
Production 15
Abandoned 3

HANCOCK COUNTY

Eagle—Alice Stauffer, Star & Clark 14 20
Biglick—Elnore Cross, Ridge Gas & Oil Synd. 3 15

Wells completed 2
Production 35

ALLEN COUNTY

Bath—Philo Bassett, Neely & Nolan 7 .. 25
Martha Powell, B. L. Carman & Co. 4 5

Wells completed 2
Production 30

AUGLAIZE COUNTY

Noble—Frank Wahrer, Frank Wahrer 6 5
C. Mozieman, Mack P. Colt & Co. 1 .. 2

Wells completed 2
Production 7

SANDUSKY COUNTY

Washington—Edith Fought, Gibsonburg Oil 3 15
A. E. Waggoner, W. C. Richards & Co. 6 30
J. F. Beeker, Home Banking Co., 9, 10 ..... abd
Jackson—V. H. Keely, W. H. Allman, trustee 1 ..... dry

Wells completed 3
Production 45
Dry 1
Abandoned 2

MERCER COUNTY

Butler—Frank Bruns, A. Lauber 1 20

SENECA COUNTY

Liberty—Edward Stahl, Milligan & Faucett 1 ..... gas
Homer Martin, W. J. Poyser & Co. 1 .. gas
Milo Saul, W. J. Poyser & Co. 3 10
Homer Martin, W. J. Poyser & Co. 2 .. 50
Clinton—J. S. Ferr, Geyer & Shaul 1 .. 1
C. Yingling, Ohio Oil 1 1
A. B. Michaels, Van Tassell & Co. 1 .. gas
E. G. Brosius, Marshall Bros. 1 .... dry
Hopewell—J. Rosenberger, W. C. Richards & Co. 1 ..... dry

Wells completed 9
Production 62
Dry 2
Gas 3

LUCAS COUNTY

Providence—Carl and Fred Ruhn, Carl Rudy 1 6

OTTAWA COUNTY

Catawba—E. E. Neal, Peninsula Oil 1 .. 1

CENTRAL OHIO FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashland	25	98	6	12	11	27	38
Medina	5	10	3	1	4	5	9
Lorain	5	0	1	4	5	4	9
Wayne	7	0	3	4	4	8	12
Holmes	4	76	0	2	1	11	12
Ashtabula	1	0	1	0	0	1	1
Richland	2	0	0	2	1	4	5
Knox	4	55	1	2	7	8	15
Coshocton	5	128	0	2	2	8	10
Summitt	9	0	1	8	1	22	23
Licking	15	272	1	2	8	11	19
Muskingum	8	2	3	4	6	13	19
Athens	10	4	7	1	7	15	22
Meigs	13	47	1	5	4	15	19
Jackson	6	0	2	4	6	10	16
Pike	2	0	0	2	0	0	0
Vinton	1	0	1	0	4	0	4
Lawrence	2	0	2	0	0	0	0
Portage	0	0	0	0	0	1	1
Stark	1	0	0	1	3	2	5
Tuscarawas	0	0	0	0	0	3	3
Fairfield	3	0	1	2	0	2	2
Guernsey	7	135	3	1	4	13	17
Belmont	2	0	1	1	0	1	1
Harrison	1	2	0	0	1	2	3
Delaware	1	0	1	0	0	0	0
Total Sept.	139	829	39	60	79	186	265
Total Aug.	130	785	34	51	75	210	285
Difference	9	44	5	9	4	24	20

WELLS COMPLETED
ASHLAND COUNTY

Hanover—John M. Hay, East Ohio Gas 1 ..... gas
Greene—W. S. Oswalt, Ohio Fuel Gas 1-4,762 ..... gas
Orange—Walling Gravin, Ohio Fuel Gas 1-4,729 ..... gas
Ira A. Martin, Ohio Fuel Gas 1-4,771 .. dry
J. E. Laughrey, Ohio Fuel Gas 1-4,-775 ..... dry
Ben Evil, The Kemrow Co. 2 ..... gas
Jackson—J. S. Kauffman, Ohio Fuel Gas 1-4,774 ..... gas
Lake—Ellis A. Morris, Ohio Fuel Gas 1-4,808 3
Chas. Moore, Robinson & Co. 3 3
E. E. Emerick, Robinson & Co. 1 .... dry
Phil Shafer, Robinson & Co. 2 ..... dry
G. M. Heffelfinger, Robinson & Co. 4 30
Harry Horn, Edmonds & Co. 1 45
A. C. Metcalf, Curtis & Co. 3 ..... gas
Township Lot, Shetler & Shetler 1 .. dry
B. B. Chesrown, Mohican Oil & Gas 5 ..... dry
L. O. Chesrown, Davis & Co. 3 .... dry
Mohican—Zena W. Seibert, Ohio Fuel Gas 1-4,805 3
Michael Ott, Sr., Metzger & Co. 2 5
Montgomery—Jose E. Gast, The Kemrow Co. 1 ..... dry
S. and J. Emmons, The Kemrow Co. 1 ..... dry
C. W. Hiner, The Kemrow Co. 1..... dry
Perry—F. B. and G. R. Shaner, Garn Woodward Oil 2 4
Milton—Arthur Ohl, Ohio Fuel Gas 1-3,-615 ..... dry
Sullivan—H. P. Fisher, The Kemrow Co. 1 ..... dry

Wells completed 25
Production 98
Gas 6
Dry 12

MEDINA COUNTY

Lafayette—Clara M. Jones, Ohio Fuel Gas 1-4,773 ..... gas
Westfield—F. E. McCracken, Ohio Fuel Gas 1-4,769 ..... dry
Harrisville—Emeline Hogans, Harmon & George 1 ..... dry
Medina—John Gunkleman, Ohio Fuel Gas 2-4,760 ..... dry
Chatham—Sanford & Watson, Oko Oil & Gas 28 10

Wells completed 5
Production 10
Dry 3
Gas 1

LORAIN COUNTY

Eaton—John B. Cowley, Ohio Fuel Gas 1-4,761 ..... dry
Carlisle—Andrew Steidl, Ohio Fuel Gas 1-4,776 ..... gas
Julia Clark, Ohio Fuel Gas 1-4,790 .. gas
J. C. Palmer, Wisner Oil 2 ..... gas
H. F. Wesley, The Daugherty Co. 1 gas

Wells completed 5
Dry 1
Gas 4

WAYNE COUNTY

Congress—C. J. Warner hrs., Ohio Fuel Gas 2-3,628 ..... gas
Jasper McVickers, Ohio Fuel Gas 1-3,-626 ..... gas
Chester—Sam C. Martin, Ohio Fuel Gas 1-4,857 ..... dry
Robert Schmidt, Harmon & George 3 ..... gas
M. G. Ruff, B. Slagel 2 ..... dry
Murel Eusey, B. Slagel 1 ..... gas
Wooster—A. and G. Ryall, Murphy Bros. 3 ..... dry

Wells completed 7
Dry 3
Gas 4

HOLMES COUNTY

Hardy—J. and F. Fyers, East Ohio Gas 1 35
Walter Achmier, East Ohio Gas 1 .. gas
Monroe—Lizzie Rambacher, Preston Oil 2-1,324 41
Richland—White & Williams, Ohio Fuel Gas 1-3,589 ..... gas

Wells completed 4
Production 76
Gas 2

ASHTABULA COUNTY

Conneaut—John R. Ring, Schaeffer Bros. 3 ..... dry

RICHLAND COUNTY

Monroe—Chas. G. Schrack, Ohio Fuel Gas 2-3,527 ..... gas
Worthington—Harvey C. Snyder, Ohio Fuel Gas 2-4,725 ..... gas

Wells completed 2
Gas 2

KNOX COUNTY

Brown—Elmer D. Pryor, Ohio Fuel Gas 5-4,756 ..... gas
Jefferson—Goldie Robeson, Ohio Fuel Gas 1-3,588 ..... gas
Union—Ella Biggs, The Pure Oil 1 .. 55
Monroe—Chas. Clements, Upham Gas 1 dry

Wells completed 4
Production 55
Dry 1
Gas 2

COSHOCTON COUNTY

Clark—Daniel Fair, The Ohio Oil 12 .. 25
Pike—Henry M. Rine, Preston Oil 2 .. 53
Chas. B. Anderson, The Pure Oil 3.. 50
New Castle—French Allen, Bell Bros. 1 ..... gas
Mill Creek—Gottlieb Reuss, Fender Oil 1 ..... gas

Wells completed 5
Production 128
Gas 2

SUMMITT COUNTY

Franklin—J. C. Baum, East Ohio Gas 2 gas
Wm. H. Habel, F. A. Brendall & Co. 2 ..... gas
C. Harring, East Ohio Gas 1 ..... gas
Copley—J. A. and H. Franks, East Ohio Gas 1 ..... dry
Rebecca Bolich, Ohio Fuel Gas 1-3,-617 ..... gas
Greene—C. E. and L. M. Diehl, East Ohio Gas 1 ..... gas
Wm. Ritter, F. A. Brendall & Co. 1 gas
Crouse, G. W. Crouse 2, 3 ..... gas

Wells completed 9
Dry 1
Gas 8

LICKING COUNTY

Fallsburg—U. G. Porter, Wittmer Properties, trustee 1 ..... dry
J. W. Little, Emerald Petroleum 6.. 10
Ida M. Cochran, Emerald Pet. 1 10
J. W. Little, Murphy Pet. 3 10
Mary Ann—Corkwell & Spencer, Preston Oil 2 7
Perry—James Wright, Hope Const. & Refg. 2 3
J. C. Burkholder, Whitehill Oil 5.. gas
Franklin—W. P. Hoskinson, Bishop, Detry & Co. 1 ..... gas
Dora Dustheimer, Vaughn & Southern 7 3
Hanover—M. B. Willey, Wehrle Gas 1.. 20
Nellie Weaver, Ohio Fuel Gas 1 20
Dan O. Flenner, Everette Gas 1 90
Hester A. Evans, Hope Const. & Refg. 1 60
J. C. Williams, North Fork Oil 8 ... 3
Hopewell—J. E. Eastworthy, The Pure Oil 3 36

Wells completed 15
Production 272
Dry 1
Gas 2

MUSKINGUM COUNTY

Falls—Ida B. McLaughlin, Athey Drlg. 1 ..... gas
John Blair, Athey Drlg. 1 ..... gas
Hopewell—Ella M. Denny, Midland Oil 4 ..... dry
Union—Maud Shepherd & Co., The Atha Co. 1 ..... gas
Perry—C. M. Tom, Mid-East Oil 1 ... dry
A. S. Coleman, Stolz & Johnson 1 .. dry
John Cullins, Wittmer Properties, tr. 1 2
Clay—T. L. Cunningham, Crowley & Co. 1 ..... gas

Wells completed 8
Production 2
Dry 3
Gas 4

ATHENS COUNTY

Ames—George Linscott, Orndorff & Co. 9 ..... dry
Robert Bean, Chas. Fox & Co. 3 3
Robert Bean, Chas. Fox & Co. 4 .... dry
Robert Bean, Chas. Fox & Co. 5 .... dry
Carthage—H. C. Gates, Ohio Fuel Gas 1-4,743 ..... dry
Berne—W. A. Chester, Ohio Fuel Gas 2-4,786 ..... gas
Athens—F. P. White, J. W. Young, tr. 3 ..... dry
Jeff Mansfield, Maynard & Ralston 4 1
Alexander—Mary E. Kelley, Watkins & Jones 1 ..... dry
Cannon—Robert Bean, Fox & Mosure 7 dry

Wells completed 10
Production 4
Dry 7
Gas 1

MEIGS COUNTY

Sutton—Wm. Carnahan, Tyree & Co. 13 10
W. R. Lott, Tyree & Co. 3 4
Mary Jividen, Tyree & Co. 6 3
Bell Spencer, Hazlett & Co. 1 20
Mary Beegle, Ket Thompson 1 1
Chester—Wesley Genheimer, Frick & Barnaby 7 8
Lebanon—G. B. Price, Bowman & Deem 1 ..... dry
Bedford—Wm. Hunter, Ohio Fuel Gas 1-2,805 ..... gas
Edith Whaley, Ohio Fuel Gas 1-4,799 gas
Rutland—Thomas Smith, H. McTaggart & Co. 1 ..... gas
Scipo—Lydia Rowley, H. McTaggart & Co. 7 ..... gas
F. C. Holliday, H. McTaggart & Co. 1 gas
Simon & Evans, H. McTaggart & Co. 6 ..... gas

Wells completed 13
Production 47
Dry 1
Gas 5

JACKSON COUNTY

Franklin—Alva Jones Spohn, Ohio Fuel Gas 1-3,429 ..... gas
E. Stiffler, Ohio Fuel Gas 1-3,571 ... gas
Lick—Edwin F. Jones, Ohio Fuel Gas 1-3,612 ..... gas
Scott Alshore, Ohio Fuel Gas 1-4,-749 ..... gas
A. Henson, Penn Oil & Gas 1 ..... dry
Jefferson—B. E. Davis, Libby-Owens Glass 1 ..... dry

Wells completed 6
Dry 2
Gas 4

PIKE COUNTY

Beaver—F. C. Hines, A. & P. Oil & Gas 1 ..... gas
Herman Shy, A. & P. Oil & Gas 1 .. gas

Wells completed 2
Gas 2

VINTON COUNTY

Elk—R. M. Herrold, Ohio Fuel Gas 1-4,737 ..... dry

LAWRENCE COUNTY

Symmes—J. W. Queen, Ohio Fuel Gas 1-3,597 ..... dry
Elizabeth—Wm. Jeffries, Ohio-Kentucky Gas 1 ..... dry

Wells completed 2
Dry 2

STARK COUNTY

Lawrence—Christ Luther, Penn Oil & Gas 1 ..... gas

FAIRFIELD COUNTY

Rush Creek—James McCune, Hope Con. & Ref. 4 ..... dry
Pleasants—Chas. W. Mayer, City Natural Gas Works 2 ..... gas
Walnut—J. J. Smith & Co., Heisey Gas 2 ..... gas

Wells completed 3
Dry 1
Gas 2

GUERNSEY COUNTY

Wheeling—C. and A. Gray, North Salem Oil & Gas 3 90
Spencer—Edgar Burlingame, Ohio Fuel Gas 1-4,136 ..... gas
Cambridge—Grace B. Miller, Ohio Fuel Gas 1-3,511 ..... dry
Fannie D. Brown, Ohio Fuel Gas 1-4,752 25
J. T. Moore, Moore Oil 2 20
George Allshouse, George Jewell & Co. 1 ..... dry
Westland—J. L. Chapman, The Pure Oil 3 ..... dry

Wells completed 7
Production 135
Dry 3
Gas 1

BELMONT COUNTY

Colerain—Thomas Starbuck, C. D. Crouch & Co. 2..... dry
Somerset—Butler-Vogt, Lewis & Co. 1 gas

Wells completed 2
Dry 1
Gas 1

HARRISON COUNTY

North—O. U. Ourant, Home Oil 1 2

DELAWARE COUNTY

Oxford—H. J. Dennis, Lee Oil & Gas 1 dry

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Clark	3	2	2	0	0	1	1
Crawford	5	14	0	0	1	6	7
Lawrence	4	350	1	0	0	2	2
Wabash	2	65	1	0	0	4	4
Effingham	0	0	0	0	0	1	1
Saline	0	0	0	0	0	4	4
Jefferson	1	0	1	0	0	0	0
Randolph	0	0	0	0	0	1	1
St. Clair	62	2,379	5	0	2	31	33
Total Sept.	77	2,810	10	0	3	50	53
Total Aug.	75	3,275	4	0	2	51	53
Difference	2	465	6	0	1	1	0

ILLINOIS
WELLS COMPLETED
CLARK COUNTY

Martinsville—John S. Carper, Trenton Rock Oil & Gas 13 ..... dry
Casey—Wm. J. Hartman, Turner Oil 19 2
E. E. Short, W. C. McBride, Inc. 19.. dry

Wells completed 3
Production 2
Dry 2

CRAWFORD COUNTY

Honey Creek—L. N. Tohill, Phipps, Cawood & Co. 14 7
Mary E. Liston, Silurian Oil 6 2
Prairie—Wm. Akerman, Frank Allison & Co. 1 1
Martin—W. L. Hughes, Dinsmoor Oil 24 8

C. T. Stewart, Ohio Oil 4 ..... abd
Oblong—M. C. Stent, Ohio-Silurian Oil 11 1
P. Miller, Farnsworth & Co. 1, 2 .... abd

Wells completed 5
Production 14
Abandoned 3

LAWRENCE COUNTY

Dennison—J. W. Clark, John Phipps & Co. 8 300
A. N. Taylor, Treat-Hays Oil 1 ..... abd
E. Meagher, Ohio Oil 7 ..... abd
Petty—M. F. Piper, Snowden-McSweeney 35 10
Bridgeport—C. B. O'Donnell, Snowden-McSweeney 45 40
S. N. Cooper, Ohio Oil 47 ..... dry
M. E. Cooper, Ohio Oil 3 ..... abd
Lawrence—Thomas H. Seed, Associated Producers 1, 2 ..... abd

Wells completed 4
Production 350
Dry 1
Abandoned 5

WABASH COUNTY

Wabash—C. E. Gilliatt, Ridge Farm Oil & Gas 2 65
Chas. Schaffer, Ridge Farm Oil & Gas 1 ..... dry
W. M. Price, Ridge Farm Oil & Gas 6 ..... abd
M. Madden, Adams Corner Oil Co. 12 abd
W. V. Sturgin, J. S. Young, Jr. & Co. 1 ..... abd

Wells completed 2
Production 65
Dry 1
Abandoned 3

JEFFERSON COUNTY

Grand Prairie—Alta Patton, Winter Bros. & Morrow 1 ..... dry

ST. CLAIR COUNTY

Sugar Loaf—Matilda Dyroff, Ohio Oil 8 20
Matilda Dyroff, Ohio Oil 9 80
Matilda Dyroff, Ohio Oil 10 100
Matilda Dyroff, Ohio Oil 11 40
Matilda Dyroff, Ohio Oil 13 80
Matilda Dyroff, Ohio Oil 14 60
Hall-Weihl, Ohio Oil 3 65
John Lutten, Joseph May 1, 3 ..... dry
Mary A. Bostwick, H. & M. Development 1 75
F. and H. Weisenborn, H. & M. Development 2 40
C. Bryant, H. & M. Development 1.. 35
Nolte & Goley, H. & M. Development 1 15
Peter Kurtz, Majestic Oil 1 25
M. Hervey, L. G. Blackman & Co. 1 30
Earl Proffer, W. S. Avery 1 75
Earl Proffer, W. S. Avery 2 50
Lena Herbst, Thomas Whelan 3 30
August Dabb, Otto Karbe 1 18
Mabel Fitzsimmons, Otto Karbe 1 .. 25
Vincent Krack, George P. Hironimus & Co. 1 30
Nevada Cooper, Mossman Bros. 1 70
Iles & Krack, Cole & Ester 1 60
George Duncan, Lee & Huffman 1 .. 10
Robinson & Co., Trenton Rock Oil 1.. 25
A. Osick, Bingham & Abbott 1 35
Dupo Public School, Coleman & Smith 2 25
M. A. Fullerton, Coleman & Smith 1.. 45
Wright lot, Coleman & Smith 1 30
Pitman lot, Knox & Robinson 1 40
Earl Proffer lot, Spencer & Walton 1 65
Mrs. R. M. Stuckey lot, Dupo Oil Investment 1 20
Henry Dahman lot, Dupo Oil Investment 1 50
George Schlemmer lot, Kelley & Co. 1 30
Laurentz lot, Hart & Co. 1 45
Chaplin-Johnson lot, C. C. Bundy, trustee 1 30
E. D. Trout lot, Royce & Stevens 1.. 30
Bucklin-Wright lot, Paul J. Campbell 1 40
L. H. Weiner lot, Robb, Murray & Co. 1 25
Arthur Hall, A. R. Melton 1 70
Fred Metter, St. Clair County Oil 1.. dry
Hall-Wallace, St. Clair County Oil 1 75
Hamil-Bachelor lots, Moody & Seagraves 2 20
B. F. Mason lot, Ostos Pogue & Co. 1 20
Mabel Glazier lot, Ostos Pogue & Co. 1 30
Dupo Twp. High School lot, Ava Oil & Gas 4 80
Laura J. Miller lot, Wm. Abbott & Co. 1 60
Anna Nolte lot, Clyde V. Sparks & Co. 1 50
Chas LaCroix, Sr., Wm. J. Abbott 1.. 45
Wm. Lindemann, Jim McPeak 1 20
Emma Otten, Chas E. Knox 1 45
Frank South, Z. Victor Szabados & Co. 1 25
Robert Rudolph, Lee & Huffman 1.. 30
Wm. Bruer, Sugar Loaf Oil Co. 4 .. 18
O. G. Mueller, Gorman & Weihl 1 8
Chas LaCroix, Sec. 29, Abbott & Co. 1 ..... dry
Elizabeth Shoman, Clarence Roques & Co. 1 40
S. Jackson, Dupo Oil Investment 1 .. 25
Ed. Haukamer, C. C. Bundy, trustee 1 30
H. A. Stroud, Delaney & Co. 1 35
Oliver Anderline, Hans Wolf 2 85
Milstead—Wm. Dorham, Timberlake & Co. 1 ..... dry

Wells completed 62
Production 2379
Dry 5

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Adams	1	15	0	0	0	2	2
Gibson	1	0	0	1	0	4	4
Pike	3	25	2	0	1	7	8
Daviess	1	0	0	1	0	1	1
Vigo	1	60	0	0	0	5	5
Sullivan	2	0	2	0	0	5	5
Clay	0	0	0	0	0	1	1
Spencer	0	0	0	0	0	4	4
Perry	0	0	0	0	0	3	3
Dubois	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	2	2
Vandeburg	0	0	0	0	0	1	1
Knox	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Greene	0	0	0	0	0	2	2
Crawford	0	0	0	0	0	1	1
Posey	0	0	0	0	1	1	2
Lagrange	0	0	0	0	0	1	1
Martin	0	0	0	0	0	2	2
Johnson	0	0	0	0	0	1	1
Putnam	1	0	0	0	0	1	1
Morgan	0	0	0	0	0	1	1
Madison	0	0	0	0	1	0	1
Marshall	0	0	0	0	1	0	1
Shelby	0	0	0	0	0	1	1
Monroe	0	0	0	0	0	1	1
Ttl. Sept.	9	100	4	2	4	51	55
Ttl. Aug.	25	243	11	6	5	42	47
Difference	16	143	7	4	1	9	8

WELLS COMPLETED
JAY COUNTY

Bear Creek—I. A. Griffith, Spencer & Pontius 4 ..... abd

ADAMS COUNTY

Jefferson—Baker Hhrs., Geo. S. Lacknett & Co. 1 15
W. Greenfield, Geo. S. Slee O. & G. 1 abd
Wabash—A. G. Briggs, Scoofakes & Hefflin 1 ..... abd

Wells completed 1
Production 15
Abandoned 2

RANDOLPH COUNTY

Monroe—W. D. Stuck No. 2, C. F. Chapman 2, 3, 4, 5 ..... abd
A. F. Fowler, C. F. Chapman 2 .... abd

Abandoned 5

DELAWARE COUNTY

Liberty—G. S. Jones, C. F. Chapman 1. abd

GIBSON COUNTY

Center—Wm. Volkman, Texana Oil 2 .. gas

PIKE COUNTY

Clay—J. R. Brenton, Murphy Oil 1.... dry
Washington—John Arnold, Harry Rischer & Co. 1 ..... dry
Logan—G. Stewart, H. C. Darby & Co. 3 25

Wells completed 3
Production 25
Dry 2

VIGO COUNTY

Prairie Creek—Wm. Riggs No. 2, Siosi Oil Corp. 4 ..... abd
Wm. Riggs No. 2, Siosi Oil Corp. 7.. 60

Wells completed 1
Production 60
Abandoned 1

DAVIESS COUNTY

Veale—Findlay, Kern & Lee 1 ..... gas

SULLIVAN COUNTY

Gill—R. M. Bledsoe, Fred Bays 1 ..... dry
Hamilton—Arthur Hunt, Seitz & Co. 1.. dry
Turman—Alex Raley, Wm. C. Kennedy Co. 4 ..... abd

Wells completed 2
Dry 2
Abandoned 1

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Muskegon	21	2,535	5	2	20	33	53
Isabella	19	3,046	4	1	19	35	54
Midland	3	300	2	0	1	15	16
Kent	0	0	0	0	5	2	7
Ottawa	1	0	1	0	0	6	6
Oceana	1	0	1	0	2	6	8
Mason	0	0	0	0	1	4	5
Newyago	1	0	1	0	4	10	14
Manistee	0	0	0	0	0	1	1
Van Buren	0	0	0	0	1	2	3
Montcalm	0	0	0	0	0	3	3
Alpena	0	0	0	0	0	1	1
Tuscola	0	0	0	0	0	1	1
Cass	0	0	0	0	0	2	2
Mecosta	1	0	1	0	0	1	1
Lake	0	0	0	0	0	3	3
Clare	0	0	0	0	1	3	4
Gratiot	0	0	0	0	1	3	4
Kalkaska	0	0	0	0	0	1	1
Montmorency	0	0	0	0	1	0	1
Barren	0	0	0	0	0	2	2
Branch	0	0	0	0	0	1	1
Ingham	0	0	0	0	1	0	1
Emmett	0	0	0	0	1	0	1
Delta	0	0	0	0	0	1	1
Saginaw	0	0	0	0	0	1	1
Allegan	0	0	0	0	2	2	4
Iosco	0	0	0	0	1	0	1
Monroe	0	0	0	0	0	1	1
Total Sept.	47	5,881	15	3	61	140	201
Total Aug.	45	9,675	9	0	55	128	183
Difference	2	3,794	6	3	6	12	18

WELLS COMPLETED
MUSKEGON COUNTY

Muskegon—Lester Hill, Reed Oil 2.... gas
Jas. Dow, Simplex Oil 1..... 75
M. I. Diamond, Simplex Oil 1..... 35
C. E. Gilbert, Swastika O. & G. A-3. 500
Andrew Luinstra, Globe Oil 3..... 350
G. L. Shoup, Shoup O. & G. 6..... 75
Danilоff, Harold L. Fleeger 1..... 200
J. J. McDermott, Sec. 10 Oil 1..... 500
Ellis Page, Fred J. Estes & Co. 3.... 150
Torrent est., Reed Oil 4..... 150
Fred Figge, Dixie Oil 1..... gas
Dirkes, Dixie Oil D-2..... abd
C. Reeths, Ma-Ha-Goo Oil 1..... abd
Laketon—W. P. Dinan, Rock Oil 3.... 200
John Thompson, Johnson O. & R. 14.. 100
K. T. Murphy, Neely, Foster & Senn 3 50
M. Shuler, Sterling Oil Corp. 6..... 100
M. Shuler, Sterling Oil Corp. 7..... 50
A. H. Fenner, Witt & Wyant 6..... dry
Wm. Fenner, Wm. H. Wilson 1..... dry
Chas. Horton, Nelson & Witt 6..... dry
Montague — Collatz-Neierdorff, White River Oil Corp. 1..... dry
Cedar Creek—Shorr, Creek Land Dev. 1 dry

Wells completed 21
Production 2535
Dry 5
Gas 2
Abandoned 2

ISABELLA COUNTY

Chippewa—Fox, Pure Oil 2..... 300
Fox, Pure Oil 3..... 350
Reems, Pure Oil A-3..... 300
Reems, Pure Oil A-5..... dry
Davis, Pure Oil 1..... 155
State-Isabella, Pure Oil B-1..... 300
L. Thompson, Pure Oil 2..... 100
Bailey-Hall, Ohio Prod. & Ref. 2.... 430
Bailey-Hall, Ohio Prod. & Ref. 3.... 15
Harris, Rockford Oil Synd. 1..... abd
Thompson-Bortz, Mt. Pleasant O. & G. 1 12
Morridon-Bortz, Mt. Pleasant O. & G. 1 200
Ernest Kappler, Dixie Oil 1..... gas
J. G. Brown, Sias Development 1..... 130
Ayris, Leonard O. & G. 1..... 300
Keeler-Brown, Sias Oil Co. 1..... 304
Denver—Adams, Denver Development 1 dry
Graham, J. F. Markle, Tr. 1.....
Isabella—West, Wittmer O. & G. 1.... 100
Chippewa — Shepherd, Ralph W. Gallagher 1 ..... dry
Coe—Myers, Athens O. & G. 1..... dry

Wells completed 19
Production 3046
Dry 4
Gas 1
Abandoned 1

MIDLAND COUNTY

Greendale—Carters, Pure Oil 1..... 300
Geneva—G. F. Heist, Shuler & Hart 1.. dry
Porter—Doyle, Sun Oil 1..... dry

Wells completed 3
Production 300
Dry 2

OTTAWA COUNTY

Crockery—Comstock-Kinkle, Ottawa Pet. 1 ..... dry

OCEANA COUNTY

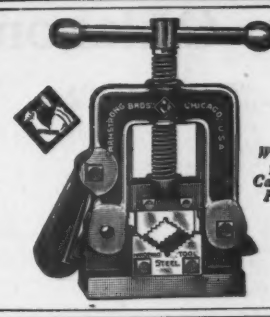
Newfield—Frank Darlington, Sankey O. & G. 1 ..... dry

NEWAYGO COUNTY

Garfield—B. Reddeman, Shell Pet. Corp. 1 ..... dry

MECOSTA COUNTY

Colfax—H. Anderson, Big Rapids O. & G. 1 ..... dry



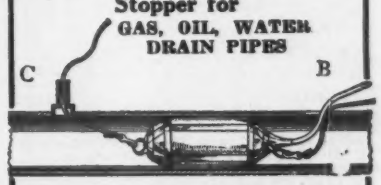
ARMSTRONG

QUALITY PIPE VISES

These vises are of improved design combining convenient weight with great strength. They are quick in action and automatically locking. They are made better—Frame and Base of Certified Malleable Iron; enameled black; Jaws of Tool Steel, carefully milled, hardened, tempered and tested; Hooks of drop forged steel.

ARMSTRONG BROS. TOOL CO.
330 N. Francisco Ave., Chicago, U. S. A.

Goodman Cylindrical Stopper for GAS, OIL, WATER DRAIN PIPES



Safety Gas Main Stopper Co.
533 Atlantic Ave.,
Brooklyn, N. Y.

Chester W. Washburne
Geologist and Engineer
27 William St., N. Y.

TEXAS OIL MAPS
County and District Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

ARTHUR C. BROWN
SOLICITOR OF UNITED STATES AND FOREIGN PATENTS
412 KENNEDY BLDG.
Tulsa, Okla.
Mr. Fred Krueger in charge
Phone 4-2319

PATENTS *Write for Free Book*
MUNN & CO.
Associated since 1846 with the Scientific American
514 Scientific American Bldg., Washington, D. C.
1551 Scientific American Building
24 West 40th Street, New York City
1303 Tower Building, Chicago, Ill.
656 Hobart Building, San Francisco, Calif.
511 Van Nuys Bldg., Los Angeles, Calif.

S. F. SHAW
Mining Engineer
Consulting Work in Air and Gas Lifts
1324 South Boulder St.,
Tulsa, Okla.

GEORGE STEINER
GEOLOGIST
Sole representative of the original Eotvos and Rybar Torsion Balances for America
Petroleum Bldg., Houston, Texas

ELECTRIC LANTERN

Oil field workers need a sturdy, hard-boiled light that will stand the knocks of everyday usage. That's Delta No. 10! Sells for $2.75 complete, less batteries, and lasts a lifetime. Throws a strong working light for fully 300 feet. Two ordinary No. 6 dry cells last for six months or more.

DELTA
ELECTRIC COMPANY
MARION DEPT. 1008 INDIANA

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for August

Runs

	Month	Dly. av.
Prairie P. L. Co.*	4,882,500	157,500
Gulf P. L. Co.	2,060,981	66,483
Texas P. L. Co.	861,022	27,775
Empire P. L. Co.	2,032,864	67,180
Magnolia P. L. Co.	2,204,970	71,128
Cosden P. L. Co.	849,144	27,392
Sinclair P. L. Co.*	3,162,000	102,000
Oklahoma P. L. Co.	3,392,247	109,427
Other lines	6,758,000	218,000
Total August	26,253,728	846,894
Total July	26,242,489	846,533
Difference	11,239	361

Shipments

Prairie P. L. Co.†	6,929,412	223,529
Gulf P. L. Co.	1,937,604	62,503
Texas P. L. Co.	1,595,403	51,465
Empire P. L. Co.	1,436,083	46,325
Magnolia P. L. Co.	2,393,980	77,225
Cosden P. L. Co.	1,046,281	33,751
Sinclair P. L. Co.†	3,353,206	108,168
Oklahoma P. L. Co.	3,493,038	112,679
Other lines	6,510,000	210,000
Total August	28,695,007	925,645
Total July	28,407,890	916,383
Difference	287,117	9,263

Stocks

Prairie O. & G. Co.*	37,393,000
Gulf P. L. and Gypsy Oil Co.	9,970,852
The Texas Co.	8,158,171
Empire P. L. Co.	4,397,243
Cosden P. L. Co.	3,334,711
Sinclair Crude Oil Pur. Co.*	20,343,000
Magnolia Pet. Co.	9,702,175
Oklahoma P. L. Co.	3,269,176
Carter Oil Co.	10,481,816
Other lines*	10,813,000
Total August	118,563,144
Total July	117,552,865
Difference	1,010,279

*Estimated. †Prairie shipments include Texas crude oil, and Sinclair shipments include Texas and Wyoming crude oil.

Note—Stocks do not include approximately .16,000,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINE REPORT

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for July and August:

	July, 1929	Aug., 1929
Nat. Transit	268,968.24	307,546.82
S. W. Pa. P. L.	96,958.15	92,316.86
Eureka P. L.	378,139.18	373,176.67
Buckeye P. L. (Macksburg)	352,286.54	334,947.96
Buckeye P. L. (Cleveland)	12,698.84	13,069.95
Buckeye P. L. (Lima, etc.)	141,314.51	130,864.10
Indiana P. L.	5,565.67	5,572.79
Cumberland P. L.	217,391.68	197,780.44
N. Y. Transit	32,169.25	31,452.26
Tidewater P. L.	284,597.46	280,916.87
Pure Oil	164,484.42	207,332.79
Emery P. L.	73,329.64	73,262.76
Paragon Dev.	16,335.32	13,721.38
Stoll Oil Ref.	5,453.55	5,334.49
Total	2,048,704.46	2,067,286.14
Daily average	66,087.24	66,686.68

Note—Indian Refining Co. also reported other receipts of 402,054.35 bbls. Paragon Refining Co. had other receipts of 164,666.55 bbls. Paragon Development had other receipts of 390.08 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio and Kentucky for July and August:

	July, 1929	Aug., 1929
Nat. Transit	448,413.13	433,226.88
S. W. Pa. P. L.	492,117.59	360,915.13
Eureka P. L.	268,871.91	282,805.08
Buckeye P. L. (Macksburg)	239,542.25	185,208.11
Buckeye P. L. (Cleveland)	2,190.55	2,185.04
Buckeye P. L. (Lima, etc.)	1,656,505.17	1,593,076.04
Indiana P. L.	1,426,217.69	1,426,167.56
Cumberland P. L.	200,632.22	201,459.97
Southern P. L.	67,284.36	36,341.26
N. Y. Transit	308,215.81	290,004.27
Northern P. L.	173,766.22	192,966.11
Tidewater P. L.	245,185.79	249,359.87
Pure Oil	163,598.14	214,822.99
Emery P. L.	67,577.88	75,477.85
Paragon Ref.	259,400.21	174,796.43
Paragon Dev.	18,142.33	14,507.08
Total	6,037,661.25	5,733,319.61
Daily average	194,763.27	184,945.79

Indian Refining Co. reported other deliveries of 411,583.89 bbls.

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of July and August:

	July, 1929	Aug., 1929
Nat. Transit	692,912.76	689,249.61
S. W. Pa. P. L.	579,475.28	551,844.06
Eureka P. L.	1,209,058.70	1,338,075.04
Buckeye P. L. (Macksburg)	431,010.70	434,154.83
Buckeye P. L. (Cleveland)	71,815.43	58,890.03
Buckeye P. L. (Lima, etc.)	3,470,370.27	3,721,519.35
Indiana P. L.	638,128.50	668,771.87
Cumberland P. L.	559,226.34	556,916.14
Southern P. L.	417,168.75	399,390.51
N. Y. Transit	235,029.71	201,133.36
Northern P. L.	416,713.78	433,718.68
Tidewater P. L.	1,109,732.21	1,028,430.16
Pure Oil	17,189.77	16,303.76
Emery P. L.	12,197.88	10,275.09
Paragon Ref.	22,399.32	11,989.49
Indian Ref.	59,096.91	50,525.66
Paragon Dev.	4,897.15	4,645.76
Tuscarora	265,071.90	264,809.29
Total	9,211,595.35	9,440,642.59
Decrease	290,320.30	229,047.24

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of July and August showing the gross stocks of the above fields:

	July, 1929	Aug., 1929
Pennsylvania	3,230,774.35	3,279,178.01
Lima	701,522.68	648,102.88
Kentucky	780,445.07	767,210.90
Mid-Continent	4,226,436.12	4,457,893.11
Illinois	272,416.63	288,258.19
Total	9,211,595.35	9,440,642.59

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1926	1927	1928	1929
January	55,630	56,209	52,904	51,749
February	60,394	61,298	57,002	51,833
March	61,644	63,247	57,485	54,252
April	63,019	60,927	56,812	58,444
May	60,580	60,284	62,067	59,902
June	61,121	62,757	58,230	58,823
July	63,206	58,674	57,144	56,087
August	61,815	60,870	57,745	56,687
September	64,639	60,285	53,487	.....
October	161,132	147,080	58,100	.....
November	67,774	57,275	53,565	.....
December	58,765	63,089	52,025	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1926	1927	1928	1929
January	156,056	141,227	146,465	165,721
February	159,488	128,534	167,388	159,387
March	150,239	133,777	155,888	161,474
April	152,374	140,227	172,935	169,737
May	160,998	144,594	180,559	184,231
June	160,267	149,772	185,024	185,404
July	160,045	151,850	189,470	194,763
August	151,929	158,653	192,853	184,946
September	155,915	144,213	194,133	.....
October	161,132	147,036	176,000	.....
November	172,698	150,975	176,898	.....
December	136,428	144,504	173,573	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1927	1928	1929
January	9,718,008	12,276,710	7,596,564
February	10,119,162	12,180,419	8,738,886
March	10,794,044	12,239,725	9,002,058
April	11,112,295	11,740,125	8,978,172
May	11,359,381	11,602,468	8,903,560
June	11,492,673	11,287,678	8,921,276
July	11,458,128	10,819,331	9,211,595
August	11,989,115	10,236,743	9,440,643
September	12,212,716	9,660,910	.....
October	12,047,661	9,229,709	.....
November	11,939,740	8,366,553	.....
December	12,340,297	7,539,556	.....

Franklin Pipe Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1928—	Runs	Shipments	Stocks
June	3,153.08	2,779.02	17,922.53
July	2,902.50	3,628.02	17,197.06
August	2,874.11	2,350.13	17,721.04
September	2,830.31	5,255.43	15,295.93
October	1,289.93	538.89	17,551.92
November	2,662.53	788.47	19,426.98
December	3,053.60	3,167.53	19,426.99
1929—			
January	2,099.90	.....	19,313.04
February	2,469.47	4,873.30	17,009.21
March	3,330.83	3,595.01	16,745.04
April	4,864.07	4,243.59	17,365.52
May	2,688.59	2,455.54	17,598.57
July	2,947.62	3,329.35	4,503.44
August	2,742.73	2,889.47	4,356.74

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, September 1	2,386,942.46
Runs from wells	598,667.57
Other receipts	481,720.34
Regular deliveries	707,229.55
Other deliveries	393,919.12

The amount of Illinois oil run by the Tidewater Pipe Co. in August was 26,684.42 bbls. Deliveries were 39,195.51 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1928—	Runs	Deliveries
September	570,307.91	737,293.50
October	626,147.64	626,290.40
November	576,332.33	702,589.93
December	584,633.00	491,517.24
1929—		
January	570,727.33	545,084.66
February	517,330.17	503,387.74
March	728,319.67	586,049.60
April	615,374.27	654,297.96
May	608,931.60	673,812.83
June	568,454.70	818,845.97
July	611,106.79	828,159.44
August	626,351.99	746,425.06

Tidewater Pipe Co., Ltd., also delivered in August, 327,478.83 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
January	15,833	.....	16,676	11,833	7,933	52,290	.....	.....	.....	.....	5,161	57,451
February	14,214	.....	28,750	17,250	11,607	81,821	.....	.....	.....	.....	3,750	85,571
March	19,903	968	21,258	13,581	7,355	73,065	.....	.....	.....	.....	.....	73,065
April	16,667	.....	32,333	13,233	2,234	64,467	.....	.....	.....	.....	7,333	65,800
May	16,226	2,416	31,326	10,806	2,129	62,903	.....	.....	.....	.....	.....	62,903
June	14,866	2,167	23,100	10,300	6,100	57,533	.....	.....	.....	.....	.....	57,533
July	15,387	4,806	34,290	19,388	2,452	76,323	.....	.....	.....	.....	4,161	80,484
August	20,389	3,129	35,226	13,903	5,548	83,194	.....	.....	.....	.....	12,161	95,356

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total all ports
January	11,936	8,903	130,065	34,871	15,709	201,484	.....	34,803	4,093	1,287	40,193	241,677
February	13,750	15,071	135,179	32,750	17,893	214,643	.....	34,357	821	143	35,321	249,964
March	18,548	26,064	145,516	39,162	28,162	257,452	.....	42,581	2,322	.....	44,903	302,355
April	19,733	18,367	137,233	50,267	22,567	248,167	6,867	25,066	10,367	1,500	43,800	291,967
May	29,806	19,258	138,000	49,936	22,322	259,322	6,677	26,323	3,000	1,323	37,323	296,645
June	31,433	8,667	134,600	42,967	18,300	235,967	8,600	22,633	11,300	2,033	45,066	281,033
July	40,097	15,129	111,677	43,420	21,516	241,839	4,774	13,097	9,516	161	26,548	268,387
August	33,387	14,355	162,644	30,936	20,355	261,677	4,226	13,742	.....	1,484	18,452	280,129

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS (REVISED)

(In barrels of 42 gallons)

1928-29		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
September:	Month	18,908,169	23,456,860	21,554,369	3,947,250	2,540,070	1,830,225	2,432,436	4,329,000	78,998,378
	Daily average	630,272	748,562	718,207	101,575	84,669	61,007	81,047	104,200	2,532,379
October:	Month	19,430,992	23,421,071	23,176,853	3,953,460	2,652,484	1,836,221	2,571,833	4,612,000	78,769,901
	Daily average	626,806	755,841	715,276	98,660	85,564	59,233	82,962	116,516	2,540,964
November:	Month	19,907,526	23,078,650	20,791,798	3,977,800	2,476,080	1,801,914	2,388,270	4,348,000	75,770,668
	Daily average	663,584	735,956	693,059	99,360	82,536	60,064	79,629	111,600	2,505,689
December:	Month	21,574,703	22,425,723	22,180,102	3,988,400	2,521,571	1,846,841	2,389,040	4,581,000	79,407,379
	Daily average	695,958	723,410	715,487	96,400	81,341	59,576	73,840	115,516	2,561,528
January:	Month	23,285,939	22,175,874	23,413,226	3,861,641	2,453,526	1,807,387	2,076,070	4,439,000	83,013,163
	Daily average	754,385	728,254	755,233	92,311	79,146	58,318	66,970	110,936	2,645,554
February:	Month	22,300,707	20,464,164	20,816,209	3,557,968	2,154,194	1,569,930	1,965,656	3,113,000	74,941,328
	Daily average	796,454	730,863	743,484	91,356	76,936	56,068	70,202	111,184	2,676,472
March:	Month	24,324,729	20,338,263	24,358,592	3,951,076	2,302,734	1,756,153	2,195,823	3,886,000	82,314,359
	Daily average	784,669	672,202	784,669	95,196	74,314	56,650	70,833	115,677	2,655,302
April:	Month	23,295,060	20,235,390	23,493,097	3,112,740	2,188,680	1,703,479	2,085,030	3,524,000	79,636,376
	Daily average	776,502	674,513	783,103	103,758	72,956	56,750	69,501	117,467	2,654,546
May:	Month	24,053,251	21,345,453	24,489,101	3,665,099	2,230,188	1,718,261	2,252,532	3,879,000	83,617,945
	Daily average	775,915	688,563	789,965	118,229	71,618	55,367	72,662	125,129	2,697,353
June:	Month	24,624,627	20,561,112	24,695,029	3,636,156	2,112,270	1,699,581	2,180,753	3,887,000	83,396,531
	Daily average	820,821	685,371	823,167	121,205	70,287	56,653	72,692	129,567	2,779,984
July:	Month	26,796,627	22,371,925	26,969,389	3,867,157	2,137,047	1,716,488	2,360,836	4,439,200	90,659,720
	Daily average	864,407	721,675	869,997	124,747	68,937	55,370	76,156	143,200	2,924,489
August:	Month	27,233,353	23,429,492	27,490,439	3,816,555	2,086,033	1,764,973	2,478,016	4,340,000	91,638,861
	Daily average	878,495	723,532	886,787	123,115	67,293	56,934	79,936	140,000	2,956,093
	Total 12 Months	275,835,783	261,213,905	282,430,754	38,540,296	27,845,887	21,045,953	27,276,867	43,977,200	978,166,645

EFFICIENCY that ENDURES

This Fig. 1508 Gaso Enclosed Power Pump is a mighty fine piece of machinery in which scientific design throughout insures a minimum consumption of power and a minimum of wear. Like every Gaso Pump it is built by an organization that specializes in providing pumping efficiency and dependability for the Oil Industry. Interchangeable liner fluid end gives capacities varying from 63 bbls. per hour at 800 lbs. pressure to 250 bbls. per hour at 250 lbs. pressure.

GASO PUMP & BURNER MFG. COMPANY
TULSA, OKLAHOMA

210 Petroleum Bldg.
FORT WORTH, TEXAS

535 Fifth Ave.
NEW YORK, NEW YORK

GASO PUMPS

for every oil industry need

431' of *straight* hole in 9½ hrs.

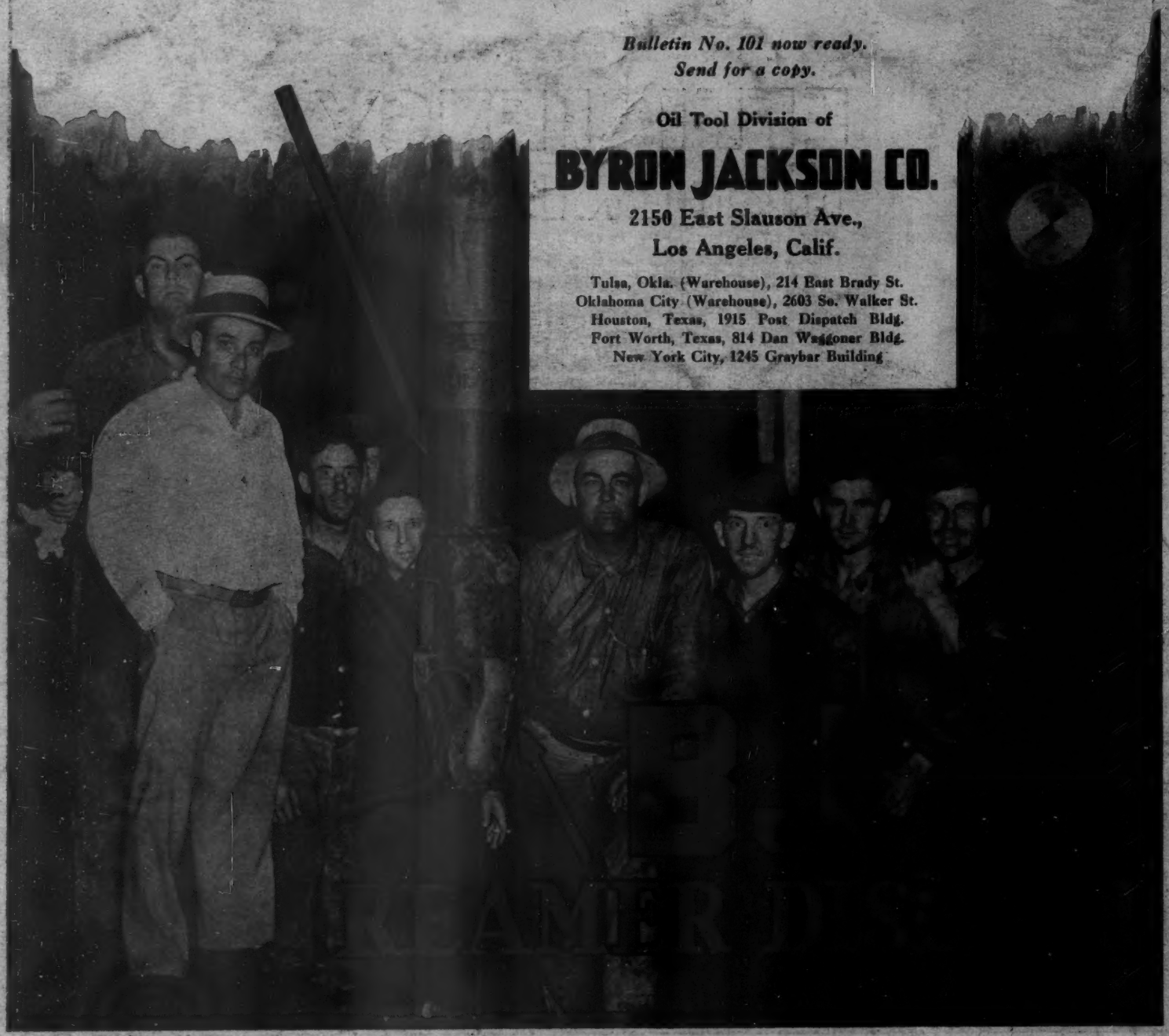
HERE are the men who ran it; and the BJ Reamer Disc Bit as it came out of the hole—muddy, but

—there was practically no wear on the discs (as shown by the illustration which was made from an *unretouched* photograph), and absolutely no wear on the reamers.

—visible evidence here that the BJ Reamer Disc Bit makes straight hole and lots of it.

Use a BJ and get a Better Job

Bulletin No. 101 now ready. Send for a copy.



Oil Tool Division of

BYRON JACKSON CO.

2150 East Slauson Ave.,
Los Angeles, Calif.

Tulsa, Okla. (Warehouse), 214 East Brady St.
Oklahoma City (Warehouse), 2603 So. Walker St.
Houston, Texas, 1915 Post Dispatch Bldg.
Fort Worth, Texas, 814 Dan Waggoner Bldg.
New York City, 1245 Graybar Building